A Guide to Writing a Senior Thesis in Political Science

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CAL POLY POMONA

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ONE: WALK BEFORE YOU RUN

Senior thesis is an extremely rewarding, yet challenging process. This is one half of the political science capstone program. The capstone (consisting of both thesis and internship) is designed to assess the skills and abilities you have learned as a political science major. It is an independent study project, undertaken during one's last year at Cal Poly Pomona. The thesis project requires the construction of a research question, argument, library research into the theories and past research relevant to the project, and the collection of original evidence in hopes to test the argument. The thesis is a project that is completed within six months. Our thesis is 30 to 40 pages double-spaced and students orally present their work in our department-wide 'Senior Conference'.

Before we set out on the journey of researching and writing a thesis, let's talk basics. As the capstone is designed to assess the skills you have learned in the political science major, it is crucial to talk about what we do here in the department.

Political Science, Research, and Subfields

Political science is our major. However, it is also the academic department. While students take courses in the major, the department is staffed with professors: academics and researchers who have earned doctorates (PhDs) in political science. Formally defined, **political science** is the academic study of politics. The main objective of each of your courses is to inform you about the academic research in that particular area. **Academic departments** are responsible for teaching you about political science research, but they also have a hand in contributing to that research.

Research is the systematic investigation of various phenomena in the world. As we are concerned with the study of politics, we are generally interested in the systematic investigation of conflict and decision-making surrounding government. Research is published by scholars around the globe by scholars who have dedicated their careers to studying politics. Your professors are real life examples of these scholars! We publish our research in peer-reviewed publications, usually in the form of journal articles and books. Although we all study very different things, we typically follow the same approach to research (guided by the scientific method!).

Since politics does touch on such a wide variety of issues, we have identified fields of study that we call **subfields**. Most professors have chosen to specialize in a subfield early on in their careers, usually when they first began studying for their PhD. We often encourage students to specialize or take courses in subfields that they prefer, but undergraduates are expected to be generalists in the major, taking courses in all of the subfields. Each political science department has a different combination of subfields, based on the composition of their respective faculty. Here at Cal Poly Pomona, we have six subfields of political science:

- **American Politics.** The analysis of government and politics in the United States, we offer a number of different courses in American Politics (201) including Congress, Presidency, the American Judiciary, the Electoral Process, Women and Politics in America, Race and Ethnic Politics, American Institutions and Behavior, and California Government. Faculty experts in American Politics include Profs. Chaturvedi and Guerrero.
- **Public Administration.** Focusing on the relationship amongst public agencies, private and public sector, we offer a number of different courses in Public Administration (206) including Politics of Public Policy, Public Organization, and Policy Analysis and Program Evaluation. Faculty experts in Public Administration include Profs. Collins, Emerson, Gossett, Reese, Speak, and Wang.
- **Public Law.** The study of legal institutions, actors, practices, and the norms of the judicial system, we offer a number of different courses in Public Law (207) including the Criminal Justice System, Constitutional Law, Jurisprudence, and Contemporary Issues in Public Law. Faculty experts in Public Law include Profs. Hargis, Reese, and Speak.
- **Political Theory.** Focusing on normative questions regarding philosophy, science, and ethics, we offer theory courses (204) in Ancient and Medieval Political Thought, Modern Political Thought, and Contemporary Political Thought. Faculty experts in Political Theory include Profs. Hargis and Speak.
- **Comparative Politics.** The systematic investigation and comparison of different political systems, we offer a number of comparative courses (202) in African Government & Politics, European Government & Politics, Latin American Government & Politics, and Middle Eastern Government & Politics. The faculty expert in Comparative Politics is Prof. Nyenhuis.
- **International Relations.** Focusing on the relationship amongst and between states, International Relations (203) covers such courses as International Conflict and Law, Terrorism, International Political Economy, Ethnic Conflict, Transnational Crime, Foreign Relations of the US, and International Law. The faculty expert in International Relations is Prof. Scarcelli.

What is Independent Study?

As stated previously, senior thesis is an independent study project. In the catalog, PLS 461 and 462 carry this designation as an independent study course. This means the capstone is not run like any other course you have taken before, although you are enrolled in thesis just like any other class.

An independent study course is arranged, planned, and managed by a supervising professor in conjunction with goals that are proposed by the student, then refined and approved by the supervising professor. Independent study does *not* mean "not involving a teacher" but more accurately refers to "independent of regular class meetings" and "independent of other students". Although we are scheduled like any other class, we meet infrequently throughout the year and class meetings are only provide general guidelines. Independent study means you are responsible for your own work and cannot get by only showing up for class meetings.

Working with your Advisor

While thesis requires self-discipline and goal-setting, this is an incredibly opportunity to work one-on-one with your professor. As you have enrolled in my thesis section, I will be your main advisor throughout the entire process. I will supervise, help refine, approve, and grade your work. Less formally, I hope this means that I will get to have conversations about your scholarly interests and background. Usually, my thesis students have already enrolled in one of my courses. If that's the case, good to see you again! If not, nice to meet you! Hopefully you have selected my section because you're interested in writing a thesis in American Politics or Public Administration. My expertise is political behavior, political communication, and elections. Although I have advised senior thesis projects in all of the six subfields, if you are planning to write a thesis outside of American Politics or Public Administration, you should switch sections.

As an advisor, I envision myself as a mentor. I am here to help you through thesis, but I am here to help you finish your senior year. Thesis is an incredibly daunting task, but it is my job to ease you through the process itself but also to challenge you when the occasion arises. I make every effort to be accessible to my students. Office hours are mandatory in Fall quarter and you should utilize that one-on-one time as an invaluable resource to advancing your ideas. However, feel free to email me to schedule appointments outside of regular office hours. I am always available for questions via email or instant message. If you have any question, no matter how small, please do not hesitate to ask. I am here to help!

In addition to teaching and service responsibilities, please remember I advise around 20 other student projects. Please be courteous, respectful, and conscientious not only of my time, but also your classmates' time. When coming to office hours, be purposeful and have a list of questions ready to go.

Structure and Format of the Thesis

Thesis is a 30-to-40-page paper. In all likelihood, this will be the longest, thoroughly researched paper you will write in your undergraduate career. Although there's not a prescribed format for the thesis, most thesis projects follow a fundamental format. This format is based on **scientific inquiry** or the **scientific method.** The scientific method is how researchers provide answers testable implications about the world. All academic disciplines follow variations of the scientific method, thus most academic papers follow a similar format.

The structure of thesis is completely up to the individual student. You can tailor and design the thesis however you'd like, dependent on what you believe is the clearest and most appropriate. Organization is paramount, however. Thus, in our department, we generally advise students to take on a format similar to what you see on the next page:

#	Component	Suggested Length
Pre-Matter	Title Page	1 page; does not count toward page total
	Abstract	100 to 250 words; does not count toward page total
1	Introduction Research Question Argument	3-5 pages
2	Literature Review	8-10 pages
3	Methodology	4-5 pages
4	Results	12-15 pages
5	Conclusion	3-5 pages
Post-Matter	References	20 sources minimum; does not count toward page total
	Appendices	Optional, as needed

It is beneficial to think of these components as sections of the paper, each with their own subheading to help orient the reader. Again, you are welcome to deviate from this structure however you see fit. We work toward honing in on your ideas in class, completing the paper in sections that match what you see in the above structure. For example, in the first four weeks of fall quarter, we work to complete the Introduction, Research Question, and Argument. This is also covered in Chapter Two of the guide. Eventually, you should have an introduction to your thesis (spanning 3-5 pages) that covers both the research question and argument. The literature review, where you're expected to investigate how other scholars have viewed your topic, is covered in the third chapter of this guide. The methodology section is one of the hardest to write as our students have little experience in designing their own research studies. The research methodology process is extensively covered in the fourth and fifth chapters of this manual. The final chapter covers the analysis and results of your paper, which looks remarkably different in each respective thesis project.

The pre- and post-matter of the thesis include the title page, abstract, references, and appendices. These pages do not count toward your overall 30-to-40 page count. However, the title page, abstract, and references are required for your paper. In winter quarter, you will be provided with more directions regarding how to format your title and abstract pages. The construction and formatting of your references (works cited) are both covered in the third chapter where the literature review is discussed. The last component, appendices, is a convention that has been adopted by most academic journals and publications. Most academic manuscripts place their tables, figures, and graphs at the end of the paper in a section titled "Appendix". *You should not place tables, figures, and graphs within the body of your paper's text.* Where you want to include the appropriate table, figure, or graph in the paper, you would make sure to note the placeholder like so:

(Insert Table X.X about here)

This practice also forces students to write a comparable amount of pages for senior thesis as some students have an overwhelming amount of tables, figures, and graphs. As such, students

should also take extreme care in regard to choosing which tables and graphs to incorporate into the thesis. If you present any tables or figures, you need to walk the reader through each part of the data presentation by describing the key findings of that table or figure. It is also important to emphasize that you do not need to include every single data point possible, you should be selective in regard to what best evidence proves your argument.

Finally, students should be careful about the actual formatting of the tables and figures. Tables and figures need to be **professionally presentable**. For those presenting quantitative data, you should not present your findings in the form of SPSS output. This is messy and unprofessional. All students should work toward presenting tables and figures by carefully working with the design features of their word processing programs.

Our Timeline

Senior thesis is a two-quarter sequence in fall and winter. We meet rather infrequently, but our progress in the course matches various portions of the paper. The following is a rundown of the activities we undertake in the two quarters:

Enroll in senior thesis	Spring and Summer
Choose a topic (Statement of Interest)	Fall, Week 1
Develop a Research Question	Fall, Week 2
Develop Argument	Fall, Week 3
Thesis Proposal	Fall, Week 4
Finalize Annotated Bibliography	Fall, Week 6
Complete Literature Review Draft	Fall, Week 7
Complete Research Methodology Draft	Fall, Week 8
Finalize Research Methodology	Fall, Week 10
Finalize Literature Review	Fall, Finals Week
Collect evidence and complete analysis	Winter Quarter
Complete Thesis Draft	Winter, Week 8
Senior Conference	Winter, Week 8, Friday
Cal Poly Pomona Student Research Conference	Winter, Week 9
Submit Thesis	Winter, Week 10

TWO: LAYING THE GROUNDWORK

The First Step: Choosing a Topic

Hopefully, you use the spring and summer before your senior year to think about a research topic that fascinates you. At this point, your interests can be incredibly broad—but remember, this is the earliest stage of your research. The process eventually entails that you will narrow down your interests to a workable project. Here are some tips for choosing a good topic:

- **Choose what fascinates you.** This is *your* project, it will consume most of your senior year. Take ownership of your project early on and pick a topic that excites you, but that you can also envision committing yourself to for six months. Think about topics you discussed in your coursework—could you expand on some of those ideas for thesis?
- **Pay attention to the world around you.** How has politics come up in your everyday life? Look to the news, your friends, local issues—what issues come up? What's the debate? What questions or puzzles need to be solved?
- **Ground yourself.** Make sure that you are choosing a political science topic. Politics is wide-ranging. Can you think of your topic as belonging to one of our subfields: American Politics, Public Administration, International Relations, Comparative Politics, Public Law, Political Theory?
- **Brainstorm.** Don't force one topic. Students usually go through multiple iterations of their project in which where they begin in September is very different than when they write the paper. Take the time to write out your ideas. Don't be afraid to write down 5 to 10 topics that interest you.
- **Look ahead.** Perhaps most crucial is to think ahead with your topic. Can you sensibly write 30 to 40 pages on this idea? Have political scientists written about these issues before? What type of evidence will you collect? Will this eventually bore you in the next six months?

Again, your research topic does not have to be specific yet. In the next section, we discuss moving from topic to research question. Talk with friends, professors, and family to see which topics are the most interesting (and could provide the starting point for a strong thesis). Once you have decided on a topic, you are ready for the next step.

From Topic to Research Question

What is the difference between a research topic and a research question? A topic is a broad subject area while a research question is much narrower. A research question is a specific problem or puzzle that can be addressed with evidence in the typical length of a senior thesis. The research question deals with a narrow topic, identifies a clear causal relationship, is anchored in a discipline, it and is testable with a valid research method.

- **A clear causal relationship.** A research question usually identifies a puzzle by working with two major concepts in which you'll investigate a cause and effect. Research questions can be written a multitude of different ways, but ultimately it will be narrowed down to a cause and effect relationship. Remember, it is a question, so it should be phrased as an open-ended puzzle asking if two ideas connect to one another.
- **What's meant by being "anchored in the discipline"?** Developing a political science research question requires situating your topic within the debates and literature of our discipline. Political science professors around the country publish scholarly articles and books where they outline their own research. Your topic will be structured on the shoulders of this work.
- **Consider narrowing your question to a specific time period and geographic location.** You can't take on the whole world. Often times, thesis projects are focused on a very narrow time period or geographic location. Think about it: you cannot sensibly answer a question that applies to the entire nation, state, or even city. Is it possible to investigate your idea in a local area? in a specific time period? Will this help you in terms of coming up with evidence down the line.
- **Make sure the question is *crystal* clear.** The research question is the heart of your thesis. In early months, students often have a convoluted and wordy research question. Your research question should be narrowed down to a one-sentence, concise statement where your two topics are clearly identifiable.

Finally, remember that you're in charge of answering this question. You must be at least somewhat confident that this question will lead to a feasible, practical project. Don't make your life harder than it has to be, pick a question that you can provide evidence for later on.

Answering the Question with the Argument

The argument is simply your answer to the research question. Perhaps differently than any other paper you have written before, both the research question and argument should be clearly articulated in the opening pages of your thesis. Thus, while we are doing this work to ensure your project is viable, you will be explicitly presenting your question and argument in the introduction to your thesis. Typically, the exposition and identification of your question and argument should be around 3-5 pages in your final product.

- **Like your question, the argument is *crystal* clear.** If the question is the heartbeat of your thesis, the argument is the heart of the thesis. Like the research question, the argument should be narrowed down to a one-sentence, concise statement.
- **Your question and argument should clearly connect.** Since we do a lot of work on the question and argument separately, sometimes they do not connect. Make sure that your question and argument directly answer one another. They should both be one-sentence long, but write them down side-by-side, it should make sense together!
- **Do not introduce a new idea or concept.** Do not bring a new idea into the fold with the argument. The argument is a definitive statement about how the causal relationship you first raised with the research question. Whatever research question you end up with, it can

be answered in a multitude of different ways. What is your perspective as to how it should be answered?

- **Hypotheses?** Often in research, we work with hypotheses. It is beneficial to think of hypotheses as falling under the umbrella of your argument. Hypotheses are optional to include in the thesis, but they are testable statements positing a relationship between concepts. Your argument itself could be seen as a major hypothesis. Some students elect to break down their argument into multiple, testable hypotheses that they examine in the analysis. Again, this is completely optional but something to think about.
- **Look ahead… you have no choice.** Can you provide evidence to prove this question? Will your evidence be convincing? Will this evidence fit the standards set forth by our discipline? You are responsible for proving this argument, thus ahead and try your best not only to envision what the entire thesis may look like. Remember, this has to be a plausible, practical, and *provable* thesis.

At this point, you are ready to start doing some heavy lifting with your ideas. The topic, question, and argument should be as solidified as possible, but it is fair to say that your ideas will evolve as you progress through your project. Nonetheless, feel confident that you have laid the groundwork for what will ultimately be a successful endeavor.

THREE: ENGAGING WITH LITERATURE

A literature review is an analytical summary of the past work relevant to your topic. An analytical summary is more than just writing a paragraph summarizing the main point of each article you read. In an analytical summary, you should link together the readings to build a story about what has been done and what needs to be done. You should summarize the work, but you should also critically assess the state of the literature. Your final thesis is required to have at least 20 scholarly sources. The literature review is completed during Fall quarter and is the bulk of your grade for Fall. We aim for the literature review to be 10-12 pages, double-spaced.

Thinking Critically about Literature

There are a variety of different ways to approach a literature review. Generally, you should think of the literature review as a thematic approach to how scholars have addressed your topic. You should link the readings together under several key categories that you have worked to identify in the literature. Which scholars agree with which scholars? What are the explanations for their differences (theoretical, methodological, etc.)? Think about your literature review as the background information to your question and argument.

Ways to structure your literature review include:

- Areas of consensus in the literature
- Areas of disagreement in the literature
- Definition and measurement of key concepts
- Data sources other researchers have used
- Comparison of research designs of previous studies
- Identification of gaps in the literature
- Longstanding questions in the literature
- Identification of theoretical versus theoretical approaches

As you search for sources, you should keep a Word document of every source you're potentially interested in investigating. As you find articles or books that look somewhat relevant, you should start aggregating them into a preliminary bibliography. You should keep brief notes on each source that you read. This will help in terms of identifying how you will structure your literature review in the ways we discuss above.

You should also begin reading as soon as you have your question and argument. Your list of sources will grow and shrink as you read and discover what really is and is not relevant to your topic. It is critical to point out that the literature in political science is *extensive*. There are thousands and thousands of articles and books written by thousands of scholars in our discipline.

You are not responsible for reading every single line of anything that is relevant to your study. You need to be selective and you need to skim.

The Annotated Bibliography

The annotated bibliography is one of the required assignments in the course. It is the Word document where you keep your working list of sources. An annotated bibliography does not look much different than a works cited section you would write for any other paper. A crucial difference, however, are the annotations. 'Annotations' are another word for 'notes'. As stated prior, you should take notes on each individual source you read. In its most basic form, the notes are to help you remember why each source is critical to your study. But here are a few pointers about what kind of notes you might want to take:

- What question is the author trying to answer?
- What theories inform the author?
- What data or methods does the author use?
- What is the author's key findings?
- What limitations or further research does the author suggest?
- How does this author differ from other scholars who have written on similar topics?
- How does your question and argument fit in?

As you read, you may start to worry that your question has already been answered. Do not panic! There is always a new twist or perspective that you can bring to the conversation or a new subtopic to explore. Think about whether your topic can *revise* previous work with new data or methods, *confirm* or update general trends or theoretical suggestions, *complicate* or question a generally agreed upon finding with new data or methodology, or *adjudicate* between key debates by testing theories.

Searching for Sources

Only *scholarly* sources count toward your required 20 sources in the literature review. First and foremost, scholarly sources *are* research. Essentially, each individual scholarly source is a study done by a researcher or professor, much like you are doing for senior thesis. More specifically, scholarly sources have undergone a peer review process, meaning that the publisher has submitted the work for review by other scholars in the discipline. At first, it is difficult to ascertain what is scholary and what is not scholarly. These individual works are not labeled as "peer reviewed". However, there are specific ways to access scholarly sources using the resources from our campus library. Even then, you have to learn how to have a discerning eye as to whether or not the source is scholarly or not.

There are a few key examples of popular sources that may be helpful to read, but are not ultimately considered scholarly: newspapers (e.g., *The New York Times, Wall Street Journal, Washington Post, Los Angeles Times)*, magazines (e.g., *The Atlantic, The Economist, Mother*

Jones, National Review), websites (e.g., *The Hill*, *Slate*, *Vox*), and even government resources (e.g., Census Bureau, Department of Defense, policy reports). These sources may have their own internal review processes and editorial boards, but these sources are not reviewed by scholars in the discipline. Although you can include this material in your literature review, it should not have a central focus nor will it count toward your 20 required sources.

How to access library resources:

- The Cal Poly Pomona Library main page (http://www.cpp.edu/~library/) has access to OneSearch, online databases, and other resources helpful in finding scholarly sources.
- OneSearch is found as the 'Library Catalog' on the main page of the library website. OneSearch will lead you to the physical resources contained inside the Cal Poly Pomona library. Physical resources refer to books and printed journals contained within the walls of the library. OneSearch also allows you to check holdings of other campuses that will send the library book to Cal Poly, free of charge.
- The online databases can be found by clicking 'Databases' on the main page of the library website. The online databases are a compendium of external services that we subscribe and pay for; these databases carry online copies of journal articles (see next section). There are three main databases that everyone should check: Academic Search Premier, JSTOR, ProQuest. However, we have access to hundreds and hundreds of databases, many of which are not even remotely related to political science. Please note these databases do not exclusively carry scholarly sources. Just because you find your source here does not automatically mean that it is acceptable to include in your thesis.
- The Department of Political Science has its own librarian assigned to us in order to help faculty and students with their research. Our contact is Donald Page and he can be reached at djpage@cpp.edu.

Political Science Journals

Scholarly journals are discipline-specific publications that are reviewed, printed, and published by scholars around the country. The aim of these journals is to publish political science research. If you are not using books, most of your sources should come from these journals. Scholars publish what we call 'articles', which are individual studies done by scholars in the discipline. You will find these journal articles in your search of the databases on the library website. Alternatively, you can search for these titles individually (if you know what journal you're after) on OneSearch.

Journals of note:

- **The American Political Science Review** is a great journal to begin with as these are published literature reviews by top scholars in our discipline. Be aware, these literature reviews are often on broad topics. If you find a literature review pertinent to your topic, it can be a fantastic resource to find scholarly articles for your own literature review.

- **Top-tier journals that cross-cut subfields.** There are a few journals that cover all subfields in political science, but are also considered to be reputable amongst the discipline. These include *Annual Review of Political Science, American Political Science Review, American Journal of Political Science, Journal of Politics, Perspectives on Politics, PGI (Politics, Groups, & Identities), PS: Political Science & Politics.*
- **American Politics Journals.** There are many journals that publish American Politics research, but there are a few to note: *British Journal of Political Science, Legislative Studies Quarterly, Political Behavior, Political Research Quarterly, Presidential Studies Quarterly, Public Opinion Quarterly*.
- **Public Administration Journals.** There are many journals that publish Public Administration research, but there are a few to note: *Public Administration Review, Journal of Public Administration Research and Theory, Journal of Policy Analysis and Management, Administration and Society, Public Budgeting and Finance, Public Administration and Development, Public Money and Management, Local Government Studies.* Please note that although Public Administration is a subfield, it is also considered a standalone department in many universities across the country. Thus, some consider Public Administration its own discipline.
- **Public Law Journals.** There are many journals that publish Public Law research, but there are a few to note: *Journal of Law and Economics, Journal of Law, Ecnomics, and Organization, Judicature, American Journal of International Law, Law and Society Review.* You can also search law review journals. Law review journals are published by law schools across the country (e.g., *Chapman Law Review, Duke Law Journal, Harvard Law Review, Hastings Law Journal*).
- **Political Theory.** There are many journals that publish Political Theory research, but there are a few to note: *Political Theory, History of Political Thought, Review of Politics, British Review of Political Science, Journal of Theoretical Politics, Signs.*
- **And many, many others.** There are literally hundreds and hundreds of poltical science journals. There are even those that do not belong in one of our traditional six subfields (e.g., *Gender and Politics, Journal of Race, Ethnicity, and Poltiics, Political Communication*). The sky is the limit.

Please note, our Library negotiates the subscription and access to many of these journal articles. If Cal Poly does not have a subscription for the title or article you are searching for, the Library offers a service called '**Document Delivery**'. The Library has negotiated agreements with other campuses to share PDFs of journal manuscripts they do not have access to. Free of charge, the Library will electronically send you PDFs of specific journal articles that we do not have access to. Document Delivery can be found on the 'Books & Articles' link on the main page of the Library website.

Citing Your Sources

The thesis is a 'master class' in proper citations. You are expected to give credit to scholars that whose work you utilize to support your research. **Citations** are helpful to others who may want to follow up on your sources and combats plagiarism. Typically, a citation can include the

author's name, date, publisher, and journal title. A **citation style** dictates the information necessary for a citation and how the information is ordered. Citation styles govern both a) how you address the scholarly work in the text and b) how you will structure your works cited at the end of the paper. There are many different citation styles in the world. The citation style sometimes depends on the academic discipline involved. The Department of Political Science currently has no official style of citation, but MLA is strongly encouraged.

For purposes of explanation, this guide will briefly review MLA (Modern Language Association) style of citation. But feel free to check out others like APA (American Psychological Association), Chicago, and even the APSA (American Political Science Association) style of citations:

- **Works Cited.** At the end of the paper, you should have a list of your sources titled 'Works Cited'. The works cited should be double-spaced. For citations longer than one line, indent the second line and any subsequent lines one-half inch from the margin. Citations should be put in alphabetical order by the author's last name. If there are two works by the same author, alphabetize by the last name of the second author. If there is only one single author, alphabetize by the title of the work. If there are two works by the same person, it is not necessary to type out their full name for each citation. Type out the full name in the first citation that appears. For all subsequent citations, in place of the name, type three hyphens with a period at the end.
- **Citing books.** When you cite a book, it should come in the following format. Please note punctuation, spacing, and italics.

  Last, First M. *Book Title*. City of Publication: Publisher, Year Published. Print.

  Here is an example:

  James, Henry. *The Ambassadors*. Rockville: Serenity, 2009. Print.

  Although MLA provides a way to cite databases where you found the book, I would avoid doing this for thesis.
- **Citing journal articles.** When you cite a journal article, it should come in the following format. Please note punctuation, spacing, and italics.

  Last, First M. "Article Title." *Journal Title* Series Volume.Issue (Year Published): Page(s).

  Here is an example:

  Manning, Paul. "YouTube, 'Drug Videos' and Drugs Education." *Drugs: Education, Prevention & Policy* 20.2 (2013): 120-30.

Again, although MLA provides a way to cite databases where you found the journal article, I would avoid doing this for thesis.

- **Other sources.** Since you will be using books and journal articles mostly, I will only include these two here. If you are citing sources such as newspapers, webpages, magazines, interviews, documentaries, etc., please search through Internet style guides to see how those sources are cited. Keep in mind these other types will not count toward your 20 required sources in the thesis.
- **In-text citations.** Finally, in-text citations is an important, often overlooked element of citing properly. Each time you discuss a source, you want to place brief parenthetical descriptions to acknowledge the source. You do not need to place parenthetical citations after each sentence where you discuss a source. If you use multiple sequential sentences to describe one source, it is the practice to place a parenthetical citation at the end of the last sentence which described that source. There are two ways to do parenthetical citations. If you use the author's name in your prose, it should come in the following format:

  Johnson argues this point (213-214).

  If you do not use the author's name in your prose, it should come in the following format:

  The point had already been argued (Johnson 213-214).

  Please do not recite entire article titles and full author names in your paper. Rely heavily on these parenthetical citations to do the work for you. If you have sources with multiple authors, use up to three in the parenthetical citation: (Smith, Wollensky, and Johnson 45). If there are more than three authors, write the first author followed by "et al.": (Smith et al. 45).

You can use "Citation Generators" which are online tools that will automatically generate a citation for you once you fill out a form for each source you use. Additionally, there are downloadable software packages like EndNote and EasyBib that will store all of your sources on your computer and will generate citations for you. If you choose to utilize one of these, please make sure to proofread your end product. Often times, these generators will yield messy, incomplete, and incorrect citations.

Common Pitfalls in the Literature Review

Students fall into similar traps year after year while writing the literature review. In addition to good research skills, this is an intense process that demands attention to detail and good notetaking skills. Here is a brief list of things to watch out for while you work through the literature review:

- **Balance.** You should strike a balance between summarizing and analyzing. Make sure that you are not resorting to describing your sources. A common pitfall is to summarize

the main point of each article you read. You should carefully assess the contribution that each article or book brings to your own study, but analyze how they should be view together thematically.

- **Clarity.** Grammar, sentence structure, and spelling figure considerably into the grade. Clarity is key. Your literature review should go through multiple drafts. It should be proofread multiple times. It should be a process that really isn't finished until we turn in the thesis in March. This demands that you not wait until the last minute to construct your literature review.
- **Organization.** The literature review is basically a mini-paper within the thesis itself. Somewhere in the opening lines of the literature review, you should outline your thematic perspective of the literature. Give the reader a roadmap before you jump into identifying your sources. Subheadings are a great way to give your literature review organization and structure as well. You should have transitions between major ideas and sections in the literature review.

FOUR: DESIGNING YOUR STUDY

After you thoroughly research relevant scholarly work on your topic, you should answer your question! This is what we call 'Research Methodology'.

There is a great amount of trepidation surrounding the 'Research Methodology'. We have an entire course centered around it, PLS 205: Introduction to Research Methods. Formally defined, research methodology is the approach to answering questions about politics using the scientific method. While PLS 205 is quantitatively-focused with an emphasis on learning SPSS and statistics, you should think of SPSS/statistics as only *one* method political scientists utilize to answer questions about politics. In reality, there are many different approaches used in our discipline to answer questions.

There are many methods or approaches to research. There are a few common methods used in the discipline of political science. However, research design is as much an "art" as it is a "science". There is no correct, established, "right" path in determining which method is the most appropriate. What follows in this section are pretty extensive, but ultimately, general guidelines.

In this section of the project, you have to choose the approach to gathering evidence for your paper. In deciding which methodology to use, the question should *never* be 'which methodology is ***best***?'. In fact, the most sophisticated and thoughtful researchers ask 'which methodology is ***appropriate***?' Given your work on the project up until this point, you have to make a choice regarding which method is the most appropriate to gather evidence for your study.

Think of this section as a blueprint. This blueprint is for the collection, measurement, and analysis of evidence to answer the research question and prove your argument. **Most of our students feel remarkably uncomfortable in this portion of this project because you have very little "on-the-ground" experience in doing this kind of work.**

What do I need to do in this section of the paper?

You need to choose **one** research method. From there, you commit to using this research method as the tool that you will use to collect evidence for your argument. You should know how this method sets out general guidelines for *how* to go about this process. This manual covers these guidelines. However, after you settle on your method, you should feel free to deviate from these guidelines to best design your study in hopes of collecting the most appropriate evidence while using this method. Sometimes you'll hear "multi-method" studies are ideal. Multi-method studies use more than one method, but this should be reserved for advanced thesis projects.

Most students should have a section in their thesis called "Methodology". This section is roughly 3-5 pages long. In this section, you tell the reader which method you chose, explain why this method is the most appropriate, and describe (in great detail) how you used this method to collect evidence for your study. In describing how you used this method, the objective is to be

able to provide enough detail so that the reader not only understands how you collected your evidence but can also replicate your study. As such, in many papers, you'll see that this section is often written in first-person narrative. You need to lay out the "blueprint" for the reader: think about it as writing the different stages or steps in how you collected the evidence. The next section in the thesis paper is usually "Analysis" or "Results".

How do I choose the appropriate research method for my study?

If you have no idea how to choose the most appropriate research method, a useful strategy is to "map out" your argument. As there are multiple ways to provide evidence for the question, mapping out your argument will help you think of what evidence that you can provide. Mapping out your argument is suggested for students who have no idea where to begin in choosing the most appropriate research method. Here is an example of how to map out an argument:

Mapping out the Argument

X	→	Y
Cause		Effect
Increase in news consumption		Decrease in political participation

Very simply, mapping out your argument is the visualization of your argument. You should take out a sheet of paper and draw this relationship as best you can. Visualizing your argument is important to help you sort out *exactly* what you will prove. Note in the above example, the cause and effect in the argument are framed in terms of deficits and excesses. You should similarly aim to frame your cause and effect by stating a directional relationship (with key words such as "increase", "decrease", "more", "less", "left", "right", etc.,)

The next step in mapping out the argument is to answer a number of key questions about this visualization. The most crucial question is to ask yourself "in what context could I provide evidence for this argument?" However, even given the work you've done, that may be a particularly difficult question to ask. Here are a few ancillary questions you should ask if you're having trouble with the above question:

- What kinds of evidence do other scholars provide in my literature review? Can I provide similar evidence?
- How would I measure each of the major ideas in the hypothesis? How do I measure the cause? How do I measure the effect?
- Who are the actors/agents involved in this puzzle? In what situations could I observe these actors?
- Is this a behavioral or institutional question?
    - If behavioral, you're measuring the attitudes and opinions of people. Here, ask yourself if there a way to measure these attitudes and opinions? Has someone collected this information already? Can you collect this information yourself?

- If institutional, you're measuring trends and patterns in or amongst government or organizational structures. Here, ask yourself does government or organizations provide information about the ideas you're interested in? Can you collect this information yourself?

Although you should always ask yourself how to provide evidence for your argument, a key strategy is to answer these questions directly on the same sheet of paper where you drew out the argument. After you visualize the argument, brainstorm how you will come up with the methodology by answering as many of these questions as possible. Bulletpoints and incomplete statements are acceptable. This is a strategy for you to think of the many different ways you could potentially answer this question!

What are my choices for methodology?

Again, you should think of methodology as a chosen acceptable technique that scholars use to collect evidence in the discipline. Evidence should not be haphazardly collected and pieced together. Evidence should be collected in a systematic way. Thus, you should think about the systematic manner in which political scientists have commonly collected data in previous studies. Before getting to these techniques or methods, let's first discuss a distinction between two types of methods:

- **Qualitative methodology:** Methodology that incorporates observations with a small number of cases. The evidence that you collect in this type of study will usually only be a handful (up to a dozen). The aim of qualitative methodology is for the researcher to explore these cases (as few as one) in detail, in hopes to see whether the argument holds to be true. Qualitative methodology is often referred to as *small-n*, meaning there are a small number of observations in the study.
- **Quantitative methodology:** Methodology that incorporates observations with a large number of cases. The evidence that you collect in this type of study is often numerous, in the dozens, hundreds, or even thousands. The aim of quantitative methodology is to prove the argument by statistically proving patterns. Quantitative methodology is often referred to as *large-n*, meaning there are a large number of observations in the study.

Essentially, the distinction between qualitative and quantitative indicates whether or not you will use data analysis.

Again, there are a handful of methodologies political scientists use. They are organized here as qualitative or quantitative:

Qualitative:

- Case studies
- Observational fieldwork
- Interviews
- Theoretical research

Quantitative

- Data analysis
- Survey research
- Survey experiments
- Content analysis

Thus, the objective should be the choose *one* methodology from this list. In the next chapter, you will see a full set of guidelines for how to go about collecting evidence for that specific methodology.

When is it appropriate to use a multi-method study?

In the past, students have elected to utilize different methodologies in the same study. For example, a student could administer a survey about opinions on fear about terrorism, but also use a content analysis to examine how "fear" in used in presidential speeches. *In the interest of saving your limited time and resources, this is not a recommended approach.* Traditionally, a multi-method study is seen as optimal; a researcher is proving their argument from different vantage points, using different techniques. However, for seniors who are under a deadline, this often leads to creating more work than necessary. Students who are seriously considering completing a multi-method study should consult with their advisor.

Can I do a policy analysis?

Since public administration is a subfield in our department, many students have experience conducting a policy analysis in their coursework. Policy analysis will be covered extensively in the next chapter, but it is not listed a methodology from the previous list. In many universities, *Public Administration* is a standalone department. Additionally, many universities have *Public Policy* as a standalone department. Both *Public Administration* and *Public Policy* are considered to be their own disciplines, outside of *Political Science*.

Academic disciplines distinguish themselves in subject matter, but also in the approaches they prefer in conducting research. However, there is often overlap in the three disciplines of *Public*

Administration, Public Policy, and *Political Science*. The overlap is so great, that many departments will have elements of each embedded within their respective programs. This is evidenced in our own department, as we offer a Masters of Public Administration program. The MPA program has a core faculty, but these faculty members often teach courses in our undergraduate political science program as well.

You should consider policy analysis as its own methodology. The reason why it is not included in the previous list is that many political scientists at other universities are not formally trained to conduct a policy analysis. Nonetheless, you may elect to do a policy analysis for your senior thesis project. Many students have an interest in local government, city administration, or public policy problems that plague our society. You should think of this as its own methodology. Again, you will find more information about policy analysis in the next chapter.

The drawbacks and failures of choosing one methodology

Although we advise that you choose one methodology in the interest of saving you potential headaches, there will *always* be drawbacks to choosing one methodology. Each approach has their own respective flaws, but you should be able to speak to those flaws in your paper somewhat. The major flaw with any study is based on whether the study is qualitative or quantitative:

- **Qualitative drawbacks**: As qualitative involves a small number of cases, it will be difficult to extrapolate the results of your study to other cases you do not explore in the study. The exact results of your study will not be applicable or replicable to other cases you or others might examine in the future. This is referred to as *low external validity.* External validity is defined as the extent to which the research design is able to support the inference about the population of interest. We are unable to do so with qualitative studies.
- **Quantitative drawbacks**: As quantitative involves a large number of cases, it will be difficult to explore your argument or relationship in a great amount of detail. In a quantitative study, you are completely reliant on statistical analysis to prove your argument. The results of your study will be unable to highlight the contours of the relationship under investigation, giving detail as to how the cause and effect actually work. This is referred to as *low internal validity.* Internal validity is defined as the extent to which the research design supports the kind of inference that is needed in proving the relationship.

Perhaps you have figured out that a discussion of the weaknesses of methodology leads to a conversation about their *strengths.* Qualitative methodology has high internal validity: with a small number of cases, we can be certain the detail we provide in our study is strongly supportive of the inference needed to prove the hypothesis. Quantitative methodology has high external validity: with a large number of cases, we can be certain that our cases under investigation is reflective of the total population. Thus, qualitative methodology has low external validity but

high internal validity. Quantitative methodology has low internal validity but high external validity.

FIVE: THE GUIDE TO METHODOLOGY

The prior chapter explored how the basics of methodology. This chapter serves as a guideline for how to approach each individual methodology. These should be viewed as general guidelines; each individual piece of research is different. These guidelines should only begin the process of how you decide to undertake your study. These methods are organized how they were discussed in chapter four. First, the guide will cover qualitative methods and then quantitative methods.

Qualitative Methodology

Case Studies

In case study research, the intention is to investigate a small number of cases in great detail in hopes of proving the argument. Case studies can be designed in an unlimited number of ways: every case study research design looks remarkably different from the next. Nonetheless, the overall intention of a case study design is to define how the cause and effect relationship in your argument *really* works.

How do I design my case study?

Case studies can be designed in a variety of different ways. One of the most basic ways is to do a **(a)typical case study.** This entails choosing one (typical) case that either best exemplifies your argument OR choosing one (atypical) case that is rare that may exemplify your argument.

Otherwise, most students choose to do a **comparison case study** design with multiple cases. There are two basic ways to compare cases: **most similar design** or **most different design**. With most similar design, the objective is to choose two or more cases that are similar on many different characteristics. However, the difference between the cases should illustrate your argument. With most different design. The objective is to choose two or more cases that are different on a series of characteristics. However, the similarities between the cases should illustrate your argument. With these comparison case studies, the objective is to identify the cause and effect of the argument in either similarities or differences of the cases.

These are three examples of how case studies can be designed. In whatever design is undertaken, the same three steps should be followed: (1) identify the argument; (2) state the expectations about what we should observe in the case if the argument is valid, and what we should observe if the argument is false; and (3) explore the case (or cases) looking for similarities and differences between your expectations and what you observe. Notice, no matter what approach you take, you should make an effort to be as systematic as possible in your examination of these cases. The methodology section of the thesis should describe how these cases were selected and design was set up, but the results section of the thesis should analyze the findings of the case study design.

How do I select cases?

A case is your "unit of observation". It is the item or object that you are choosing to examine in great detail for your study. Dependent on whatever your topic, a case can be anything: an event, a person, a country, etc., Given that, there is no right or wrong way to select your cases. You could have the same question and argument, but have two different case study designs to test that argument.

Principally, you want to think about what cases are particularly rich in evidence. Some cases are inevitably difficult to include in your paper only because there is not a wealth of evidence to prove your point. Include cases in your study which will prove your point.

Observational Fieldwork

Observational fieldwork is where the researcher cedes control in order to observe a political phenomenon occurring naturally. Observational fieldwork is common in other disciplines such as sociology, but political scientists use it from time-to-time. Typically, with observational fieldwork, the researcher commits to observing political behavior of some sort in the hopes of creating a thorough descriptive analysis.

Essentially, when beginning, researchers set out to create a systematic set of standards in how to observe the behavior. These systematic standards guide the researcher in how to take **field notes**. These fields notes are the unit of analysis for the study. The field notes should be structured in order to highlight the cause and effect relationship in your argument. Sometimes these field notes can be descriptive in nature (qualitative), but other times field notes can take on a quantitative nature by tallying the frequencies of behavior. The methodology section of the thesis should describe how these fields notes were recorded, but the results section of the thesis should analyze the field notes.

Prior to beginning fieldwork, researchers should consider their observations on three dimensions. In the methodology section, the student should explain their choices but speak to relative strengths of weaknesses of the design by choosing these dimensions. First, observations can be direct and indirect. When the behavior is observed firsthand, the observations are direct. When the behavior is observed on video or written records, the observations are indirect. The benefit to having direct observations is that the researcher has firsthand knowledge of how events unfold, but is limited to a one-time observation where the researcher can miss details. The benefit to having indirect observations is the researcher can observe the event repeatedly, but is limited to the frame of reference in how the observations were recorded to begin with.

Second, observations can be participant and nonparticipant. No matter what mode of observation, researchers will affect the outcome of that behavior merely be being present. With participant observation, however, the researcher is actively participating in the behavior. For

example, if a researcher is observing voting behavior at a precinct but also participates in the election by voting, this is participant observation. With nonparticipant observation, the researcher merely observes without participating in the behavior itself. Participant observation is more intrusive than nonparticipant, but may grant the researcher additional access to behavior had they not participated in the activity.

Finally, observations can be overt and covert. Overt observations are when the researcher announces their presence and intention to the research subjects. Covert observations are when the researcher does not let their presence or intention known to the researchers. Sometimes, the researcher has no choice in letting their presence be known. Nonetheless, if the subjects know their behavior is observed, they may allow this to affect their behavior. If covert, the researcher might have to take specific actions in order to avert the subjects from their work.

Interviews

With interviews, the researcher seeks out specific individuals in order to describe specific themes inherently important within the argument. In interviews, the researcher is interested in the participant's experience, usually in regard to a specific topic. Some people compare the interview methodology to survey methodology, however, interviews allow you to get much more in-depth, more personal, and more exploratory.

To begin, most researchers find their respondents for the interviews. As small-n research, the number of respondents for interviews should not exceed a dozen. For the selection of respondents, students should focus on quality, not quantity. You want to make sure that the respondents will give quality responses that will elucidate the type of detail required to prove your argument. Also, in some instances, interviews are especially appropriate if the argument requires the perspective of a specific population (e.g., politicians, administrators, students, etc.,) Nonetheless, in the methodology section, the process by which the respondents were selected should be explained in full.

Ultimately, the aim of the interviews is to collect quotes from the respondents. These quotes are to be organized thematically in your analysis. You will include these quotes (sometimes in blockquotes) but the analysis is a thematic dissection of the types of responses received in the process. Thus, in order to ensure that that the analysis is fruitful, there needs to be quite a bit of preparation in the interview process.

After deciding on *who* your respondents will be, the next step will be deciding what to ask them. Interviews should start with a basic script. A script usually has a handful of open-ended questions that invite detailed responses. Students should aim for a 30 to 60-minute interview for each respondent. A good, carefully constructed script will have up to a dozen questions. Students should also think carefully about probing questions. Probing questions are usually a "follow up", done "on the fly", in order to get more detail from the respondent in that moment. These probing questions should come at the service of obtaining evidence in order to prove the argument. The

script itself should be carefully assessed and proofread. Some students might elect to pretest the script in order to see how someone may respond to the questions.

The interview itself needs to be recorded and transcribed. Most cell phones have recording software and storage capabilities that make this simple and straightforward. Prior to starting the interview, the student must ask for permission to record the interview. If the respondent does not agree, the student has the option to take written notes. Most students choose to make the respondents anonymous in their final thesis, with the intention of assuring their respondents that their responses will be kept private. For some projects, this might be necessary given the sensitivity of the issues at hand.

Transcription is the process of typing out complete transcripts from the obtained recording. Transcription is a time consuming process. However, transcription is important because it allows the researcher to step back and assess the thematic patterns of the interviews. If a researcher relies solely on written notes and memories, this will yield unreliable results. These complete transcriptions are *not* included in the final thesis as they span dozens and dozens of pages in most cases. The transcription is only used for the researcher in order to cultivate the quotes which they will use in their thesis. The analysis is a carefully assessed presentation of all the interviews, highlighting the thematic elements of the exploration.

Finally, keep careful, detailed notes on how you have proceeded through conducting the interviews themselves. You have options for how to conduct interviews, but your specific process should be described in the methodology section of your paper. You should give enough detail that the reader knows how you conducted your research and could even replicate your research if they desired.

Theoretical Research

Theory-based research means that the student has elected to focus on normative questions and issues in providing evidence for their argument. This type of research does *not* involve empirics of any kind—the recording, observing, or analyzing of data. Another way to think about theoretical research is that this is the approach taken in the *political theory* subfield of political science. That being said, there are many different approaches to theory work. The approaches are based on a number of different factors including the topic at hand, preferences within the subfield, and established work already on the topic. With theory-based research, the analysis entails *reading* the work of other scholars. However, this differs from a literature review in the sense that the researcher is doing active, new work in reconfiguring or deconstructing the work of other scholars. In this thesis class, we recommend two approaches to theory-based research: application and critique.

For most theory-based research, there is no formal methodology section. Most students collapse the methodology section with the analysis. Somewhere in the beginning of the analysis, however, students should describe their approach in analyzing their ideas.

Application

An application entails finding a scholar that has presented a theoretical argument in either a book or journal article. This already existing argument should deal with the ideas contained within your own project. However, the already existing argument might not pertain to a current, contemporary issue that you wish to examine. A thesis using application takes an existing argument made by another scholar in order to explain a contemporary event or issue.

For example, a student elected to use application in a thesis about representative democracy. This student used the works of Greek philosophers: Plato, Aristotle, Socrates. The research involved a detailed reading of selected works of these philosophers. However, the student used selections of their work to prove that the elements representative democracy instilled by Athenian philosophers no longer held true in the United States government. With any theory-based research, the researcher has a wide amount of discretion in how they want to use and analyze the work of previous scholars. This student elected to read and then select a number of ideas from each scholar in order to address how ideas shared by these philosophers no longer held true in the US.

Critique

A critique *also* entails finding a scholar that has presented a theoretical argument in either a book or journal article. However, the analysis should only focus on this selected, already-established argument. This already existing argument should contain ideas that you want to directly challenge and engage with in your analysis. Essentially, in a critique you want to provide an alternative viewpoint from a scholar who may be already well established and written about in your literature.

For example, a student elected to use critique in a thesis about structural racism in the United States. This student chose to analyze structural racism from the perspective of critiquing critical race theory. Critical race theory is a framework that has existed since the 1970s that argues racism is engrained in American legal and political institutions. Since the 1970s, many scholars have written about and under this framework. However, this student chose to examine one of the originators of critical race theory. Derrick Bell wrote *Race, Racism, and American Law* in 1973. This book is widely recognized as one of the first to engage with the tenets of critical race theory. This student re-visited this book to critique the original ideas presented in critical race theory. Again, with any theory-based research, the researcher has a wide amount of discretion in how they want to use and analyze the work of previous scholars. This student carefully read Bell's work and highlighted specific passages and ideas to present an alternative perspective of critical race theory.

Quantitative Methodology

Data Analysis

Data analysis is at the heart of quantitative methodology. Data analysis specifically refers to the use of numeric data in addressing an argument. Data analysis involves the use of statistics via specific programs (e.g., SPSS, SAS, R, Stata), but the presentation of statistics widely differs from project to project. Data analysis can present findings as simple as descriptive statistics or crosstabulations, but as complicated as regression analyses. The presentation of the data analysis depends on the topic, the availability of data, and the preference of the subfield at hand. In many subfields now, including American politics, public administration, and comparative politics, but even public law and international relations, scholars have relied more and more on data analysis.

Please note, if electing to use data analysis, you must have taken or enrolled in Political Science 205: Introduction to Research Methods. This course covers the use of statistics in data analysis. Before committing to quantitative methods and data analysis, you must determine the availability of data for your topic. In the past, many students have assumed the relevant data exists or the collection of data is a fairly easy process. *Do not make this mistake.* If you commit to data analysis, you should have already identified a publically available dataset *or* a specific strategy to collect the data yourself.

Data analysis and quantitative analysis can come in the form of specific chosen methodologies. The remaining sections of this chapter are devoted to describing these methodologies. Survey research, survey experimentation, and content analysis are all forms of quantitative data analysis. These methods most often involve collecting your own data, however you can find publically available datasets that are survey data or content analysis data. You may also find publically available data in another form and bypass any of these methods described in the following pages.

Note: A common mistake students have encountered in the past is using graphs and charts in published books or journal articles. Students have literally copy and pasted graphs and charts of other work and called this "data analysis". This is *not* data analysis. Also, you usually cannot extract this data from the charts and tables in a way that is sensible to analyze on your own. Sometimes, scholars make the dataset available (they will provide directions for how to download the article in the pre-matter or appendix of their manuscript). You can also attempt to directly email these scholars and ask them for their data. In most instances, you need to begin data analysis with a spreadsheet of data.

Survey Research

Survey research is incredibly common in the social sciences. A survey involves asking respondents about their behaviors and opinions. For political science, survey research allows researchers to decipher people's political behavior. Essentially, you ask people questions about politics to sort out your argument. Survey analysis involves considering the following: survey type, questionnaire design, respondent sampling, administration, analysis.

Survey research involves a number of different options about the design of the survey. These should be described in the methodology section of your paper. These decisions should be

clarified to the extent that the reader understand how you conducted your survey, but could also replicate your study if they wish.

Survey Type

There are various types of surveys. A survey type is the mechanism by which you administer the survey. In this section, we cover paper-and-pencil surveys and Internet surveys. Most students use a paper-and-pencil questionnaire for thesis.

A paper-and-pencil questionnaire requires the student to print physical copies of the survey and administer them in person. Keep in mind, with this survey type, copies can be expensive. Surveys can often span pages and pages. Most students elect to keep the survey length from anywhere to 2-to-5 pages. However, formatting of the questionnaire needs to be clear and attractive for respondents. If the questionnaire has errors, your respondents will not take your study seriously. With paper-and-pencil questionnaires, the most common way to administer the survey is before classes begin, randomly approaching people on campus, or administering the questionnaire to specific populations.
An Internet questionnaire requires the student to find an online service to administer the survey. This is often times much more affordable than a paper-and-pencil questionnaire, but limits your respondents to anyone who has Internet access and requires technical expertise. In the past, students have used SurveyMonkey and Google Surveys to administer their survey. Beginning in 2017-2018, the Department of Political Science has access to Qualtrics, which is an online survey software program. Students receive no formal training and will be responsible for learning how to use these tools on their own. With Internet questionnaires, you often need the emails of your respondents *OR* you can share a survey link on your social media sites.

Questionnaire Design

Whatever the survey type you choose, questionnaire design is of the utmost importance. This includes the appearance and formatting of the survey itself. Also, students will receive no formal training in how to format Word documents, but a sloppy survey will affect your results.

Most importantly in design, researchers pay close attention to question wording and question ordering. First, technical competence, grammar, and spelling are all important. You need to carefully proofread your questionnaire and even have several other people proofread your questionnaire. The questions need to be crystal *clear.* If not, your thesis would be open to significant criticism in that you are measuring a concept or idea totally different than what you originally intended. Some researchers will consult the national, publically available surveys to copy the wording of specific questions.

For question wording, researchers pay attention to how the words in the survey questions might elicit opinions in their respondents. A simple problem with wording involves what people commonly describe as “double-barreled” questions. A double-barreled question (also called a competing option question) is one that touches upon several issues, but requires only one answer.

Make sure each individual question only asks about one idea or concept. Another example is how the question is "framed", which can also significantly affect people's responses. Framing the question appropriately means that the question is not biased in a significant way. For example, when asking about political issues in particular, you never want to frame issues as "negative", "positive", "good", "bad". If you do want to talk about different sides of the issue, it is your responsibility to give the respondents the complete picture.

For question ordering, the ordering the questions appear in the questionnaire can affect respondent's answers. For example, if you ask demographic questions *first,* many of these questions involve sensitive personal information like income, education level, and political affiliation. In any subsequent questions, the respondents might be concerned about their privacy and will hide their true beliefs and opinions, or even worse, stop taking the survey questions altogether. Sensitivity in demographic questions are common in survey research, thus they always should be moved to the end of the questionnaire. However, think about the types of questions you are asking and whether or not earlier questions will affect later responses. A general rule of thumb is to keep the most controversial or troubling questions to the latter part of the questionnaire.

You also have to decide between using multiple choice or open-ended questions. Most surveys use multiple choice because it is far easier to code those responses. However, even in multiple choice questions, you need to be certain that you are providing a complete set of options. For example, on some behavioral questions, most students fail to allow respondents to answer "Don't Know" or "No opinion". These are valid responses to questions that are interesting in their own right, but not having these options forces a respondent into an opinion they might not even hold. If you use open-ended questions, you have to develop some system to code these responses. This can often get messy, especially if you ask about bigger ideas in these open-ended questions.

Respondent Sampling

Respondent sampling refers to the population of people that will end up being a part of your study. Sampling is an important part of the survey, as who is in your study will determine the type of responses you receive. For example, if you only sample students on campus, the responses will be radically different than a survey of individuals across the entire state. You need to describe how you sampled your respondents in the methodology portion of your thesis.

The goal is always to draw a random sample. That being said, this is pretty much impossible in senior thesis. A random sample will approximate responses from the entire intended population. The only way to draw a random sample is to have a complete list of everyone (and a mechanism to contact them) in the population that you are intending to study. In thesis, we draw what we call **nonprobability samples** (or non-random samples). There are various different nonprobability samples you can utilize.

For example, **purposive sampling** involves a considerable amount of discretion over the respondents you include in your sample. You are purposely surveying a segment of people,

because the study calls for it. Many students choose to study the opinions and attitudes of other students, thus a purposive sample may only survey students on campus. **Convenience sampling** allows the researcher to include respondents simply because it is convenient or easy for the researcher to do so. Again, many students choose to survey other students because it is pretty straightforward to do! However, if there is no real reason to survey students for your study, this is a convenience sample rather than a purposive sample. **Quota sampling** allows the researcher to sample elements in proportion to their representation in the overall population. For example, if you are studying race and ethnicity, you might want to sample people to you reach each respective element in the sample. For example, the 2010 US Census estimates that our country's population is 12.6% Black or African-American. In your survey, you will survey respondents until you hit a quota of 12.6% in your own study. Finally, **snowball sampling** is when respondents are used to identify other persons who might be included in the sample. This is most often done for hard-to-find or rare populations. You might want to survey political activists for example, but there is no national or local list of activists, thus you would find a handful of activists through your own personal contacts. After you administer the survey, you would ask each respondent if they can suggest people who would be appropriate for the survey. Thus, your sample would snowball after each successive respondent.

The number of respondents (also called *n* or number of observations*)* is also something to consider. For a national survey, we only need about 1000 random respondents to get a good sense of opinions and attitudes. For a population of 20,000 (Cal Poly Pomona), you need about 600 random responses to get a good sense of opinions and attitudes. For a population of 300 (political science major), you need about 200 random responses to get a good sense of opinions and attitudes. For students completing thesis, this is an unrealistic expectation. As we do not have the resources to even conduct random samples, we do not expect students to obtain the expected sample sizes in each of the examples above.

Important: For senior thesis, the general expectation has been that students survey anywhere from 75 to 200 respondents. Again, this is well below the intended sample size, but we allow this for practicality reasons. In addition, we do not expect students to utilize random sampling methods. Any sampling method is acceptable, as long as the student clearly, accurately, and comprehensive describes how they sampled respondents for their survey.

Administration

The administration of the survey refers to the process in which you have respondents complete the survey. No matter the survey type, this requires time and patience. For paper-and-pencil questionnaires, you have to physically wait until your respondent completes the survey. You should have a rough estimate for how long it takes to complete the survey and *write down the estimated time completion on the survey itself*. If you administer the survey in a large group like a classroom, this will obviously cut down on the time it takes to administer the questionnaire. For Internet questionnaires, you are responsible for recruiting your respondents. No matter if you email or share the link, the response rate may be low. If you wish to have 100 respondents in

your survey, you may have to email more than 300 people or share your survey link in various different forums.

Analysis

After you have extensively covered each of the previous elements of survey design, you should think about how to analyze this data. Ultimately, the goal is to convert your survey responses to a numerical spreadsheet. For many of the online services that allow you to conduct an Internet survey, they automatically format your responses into an Excel or SPSS spreadsheet. If you are using a paper-and-pencil questionnaire, you have to code your responses into an Excel spreadsheet on your own.

For a paper-and-pencil questionnaire, you need to develop your own coding system to input the responses in the spreadsheet. A spreadsheet program, like Excel, has both rows and columns. The way to think about your survey responses is that each row represents a person who took your survey. Each column represents an individual question in your survey. Across a single row, you would record all of the person's responses to the survey, with each question in a different column. For some questions, this system may be more complicated.

This coding requires careful notation. It is easiest to sequentially number each survey with a marker on the first page of each survey (e.g., 1, 2, 3, 4, etc.,) The first column in your spreadsheet should correspond to this unique ID number. This way, you can save the physical copies of your survey and refer to them if there's any later confusion. The next column should be the first question in your survey. For multiple choice questions, each multiple choice response should be given a unique code. For example, if your responses are "Strongly Agree", "Agree", "Neutral", "Disagree", and "Strongly Disagree", you should code each category as "1", "2", "3", "4", and "5". The goal is to convert all the survey responses to numbers and have it all on the same spreadsheet. The only letters in your spreadsheet should be in the header row that describes what the column is. And even then, you should avoid special characters and spaces in the header row, as it will be impossible to read in whatever statistical program you decide to use.

Survey Experiment

Survey experiments should be thought of as a subset of survey analysis itself. You have to read the previous section on surveys, but essentially, you include an experiment as part of your analysis. With experiments, the researcher thinks of their sample as two separate groups: a treatment and control. Experiments involve administering some sort of external manipulation to the treatment group to assess how the treatment affects the responses to the questions.

For the methodology section, you should describe the process by which you designed the survey itself. But in addition, you should explain how you designed your treatment, the process by which your respondent was assigned in each group, and your expectation for the differences between these two groups.

What is a treatment?

A treatment is an external manipulation that can come in multiple forms for a survey. The manipulation can be additional information, photos, videos, or even a manipulation separate from the questionnaire itself. The idea is that the treatment elicits some sort of different response in your survey questions. The analysis would compare and contrast the two groups of respondents with an appropriate statistical test. If there is a significant difference between the two groups, the treatment worked to manipulate the respondent.

A good example of a survey experiment was a student who administered a survey about people's opinions of war, particularly in Iraq and Afghanistan. The treatment group received a survey questionnaire with images of September 11th, excerpts from speeches given by President Bush, and patriotic images. The control group received none of these manipulations, it was just a plain survey. The student found that the respondents who received the treatment answered the questions differently than those in the control group.

Another example of a survey experiment was a student who administered a survey about the national healthcare law. The treatment group had a survey where the law was explicitly called "Obamacare" throughout the questionnaire. The control group had a survey where the law was called "The Affordable Care Act". Those respondents in the treatment group significantly showed less support for a national healthcare law versus the respondents in the control group.

Finally, the treatment does not *always* have to be on the survey questionnaire itself. This is a more complicated task, but some studies develop ingenious ways to test various arguments. For example, one study wanted to investigate the effect of protest music on political attitudes. Thus, the researcher invited respondents to take the survey in a classroom where music was playing in the background. The control group took the survey in a quiet classroom. Another example on studies that have involved gender. In some of these studies, it is common to use two survey administrators from each gender. The survey in both groups are identical, but the treatment is the survey administrator themselves.

Assignment of groups

In order for experiments to properly work and be correctly assessed, you must randomly assign your respondents to a treatment and control. For treatments contained in the paper-and-pencil questionnaire itself, this is achieved by randomly shuffling the two versions of the survey. You need to keep track of the two versions of the survey however. This is easily done by labeling each version at the top with a simple ID number. When coding the survey, create a new column called "Experiment" and indicate which group the respondent is in. The analysis comes from comparing these two groups of individuals on a variety of other questions in the survey that you think the manipulation might affect.

Content Analysis

A content analysis is a quantitative document analysis. In a content analysis, researchers extract numerical excerpts, quotations, or examples from the nonnumerical written record to support an observation or relationship. A very common example of content analysis investigates the *frequency* of a specific term, word, or idea that is utilized within a text. The frequency of appearance of certain terms or ideas lead to the idea that there are patterns within the text itself that deserve to be highlighted in your argument. In the methodology, you are tasked with identifying your text, operationalizing your concepts or ideas, and coding your text.

Identifying the text

The first thing to do is to identifying what materials will be included in your analysis. The materials refer to the text you decide to use. The text can widely vary from project to project. For example, if you are studying the values inherent in the political parties, perhaps you would use the major party platforms as your text. If you are interested in studying sexism in political news coverage, perhaps your text is the transcripts from ten randomly selected network news interviews with Hillary Clinton. If you are interested in analyzing the patterns of how conservatives make their argument, perhaps your text is a randomly selected assortment of fifty conservative op-eds in the Wall Street Journal.

There are numerous political texts in the world: newspaper articles, magazine articles, speeches, social media posts, candidate websites, interview transcripts, etc. The possibilities here are endless. However, you must describe how you found your text. The text itself is only for research purposes but does not need to be included in the thesis. If there is a huge universe of text in your topic area, you are responsible for devising a method to *randomly* or *purposely* sample your text. For example, if you have 500 newspaper articles to select from, it may be overwhelming to include each article in the analysis. If you could somehow select a subset of these 500 in a random way, you should. Nonetheless, you are responsible for describing exactly how you found your text and identifying any weaknesses in the sample you ended up deciding on.

In deciding upon the number of items to have from your text, the general rule of thumb is to aim from anywhere from 75 to 200 different items. Thus, you should focus on collecting either 75+ newspaper articles, speeches, social media posts, etc.,

Operationalizing the concepts

In operationalizing the concepts, you have to decide *exactly* what you are looking for in the text. Operationalization is another word for "measure". Presumably, you are interested in general broad ideas in your question and argument. How would you measure or operationalize these ideas in the text? You need to decide exactly what content you will be examining within the text itself.

For example, content analysis is very common in different studies of gendered political coverage. To identify potential sexism in how journalists covered political candidates, there are established lists of words and phrases in how someone might write about male and female candidates. For example, men might be described with words like "powerful", "decisive", "experienced", or "strong". Women might be described with words like "compassionate", "soft", "patient", or "kind". Nonetheless, this decision of how you will operationalize is arbitrary. However, it must logically tap into the broader ideas in your argument. In the methodology section, describe why you think certain phrases, words, or terms logically operationalize the ideas you are working with.

Coding the text

Finally, you need to devise a coding scheme in order to transform the text into numbers. You should first begin by sequentially numbering each individual item of text in your analysis. For example, if you are analyzing 75 campaign speeches, label each speech with an individual number (e.g., 1, 2, 3, 4, 5, etc.). Second, start a written document where you decide how you will code each individual text you decided to include in your sample. This will contain the rules for the words, phrases, terms, patterns you are looking for in the text. Another way to think about this written document is the specific directions for how you operationalize the text.

Third, in an Excel spreadsheet, you should actually begin coding the text. A spreadsheet program, like Excel, has both rows and columns. The way to think about your text is that each row represents each individual item of text. In the previous example, each row would be one speech. Each column represents some sort of element of that individual item of text. Essentially, these are numerical observations of the text you are working with. The numerical observations are how you decided to operationalize the text. Remember, how you decide to operationalize the text is completely arbitrary but should be logically connected to your argument. In the previous example, this might be the frequency of the word "people" within the speech itself. It may appear zero or 15 times during respective speeches. You should aim to have anywhere between 15 and 100 different columns in your spreadsheet.

Finally, the next step would be to use this spreadsheet in order to analyze the patterns in the text. You should think of descriptive statistics, graphs and charts, but also full statistical analysis relating the columns in your spreadsheet. This statistical analysis should ultimately be in the service of identifying relevant patterns in the text which correspond to your argument.

Public Policy Analysis

From your experience in many different public administration courses, you may have experience or exposure to public policy analyses. PLS 417: Policy Analysis and Program Evaluation is an excellent example of a course where you may receive firsthand experience in this type of analysis. Policy analysis is defined as a systematic approach used to help policymakers make decisions in the face of uncertainty. Policy analysis is usually written to a specific audience: politicians, citizen constituents, academics, government officials, the media, groups or

organizations, companies, etc. Policy analysis also comes in many different forms: a short report, a full research study, a memo to officials, etc. In thesis, you should probably think about your analysis

Separately, you should think of policy analysis as its own methodology that you can elect to do for your thesis. However, a policy analysis is a unique approach found outside of political science. Many policy analyses also incorporate many of the methods we describe above.

What distinguishes policy analysis from the above methodology?

The policy analysis is distinguished by what is often described as a mapping process. The mapping process begins with a problem. We identify this problem in outlining our research question early on in the thesis process. Different policy analysts use different mapping techniques, but the mapping process involves describing potential solutions in a number of different iterative steps.

Students should map their problem with thinking through how to solve that problem. But on a sheet of a paper, where the problem is described at the top, students should consider a number of separate questions about the problem?

- Alternatives: How do you solve the problem? There are many ways to solve any given problem, brainstorm all the different ways you can think of.
- Criteria: What are some ways that we evaluate your alternatives or solutions? By what criteria can we judge the alternatives?
- Questions: What are some additional or further questions to ask about the problem?
- Outcomes: For each of the alternatives you list, what are some likely outcomes at the end of this process?

The mapping process is a difficult process, but it is crucial to point out that there is NO CORRECT manner to map out your problem. Mapping your problem is a strategy to provide the best possible solution for your audience. Instead of a methodology section, consider having a section of your thesis where you map out this problem. You should describe your full thought process in how you brainstorm through the mapping process. You can and should include diagrams that explain your map.

What is the analysis?

Once you complete the mapping process, you should compare each of your alternatives with your criteria. This can be done in a simple table or matrix where the alternatives are listed in rows and the criteria are listed in columns. From this matrix, you should attempt to logically rationalize which alternative is the best from the ones you have brainstormed. You should think about this as the best solution to the problem. You should include the matrix and explanation at the end of the section where you map the problem.

For the analysis, think about how you can conclusively analyze the alternative which you have chosen as your best solution. There are many ways to do analyze alternatives. In fact, many policy analysts use methods like surveys, data analysis, case studies, etc., to argue that this alternative is the best solution to the problem.

Remember, the policy analysis is written to an academic audience. The final product for this analysis is an academic study with a question (problem), argument (best solution/alternative to that problem), literature review, the mapping approach you used to solve this problem, and an analysis where you provide evidence this is the best solution to the problem.

Again, this is a very different approach to any of the methods previously described, but you should consider this methodology if you are interested in public administration or public policy work.

SIX: ANALYSIS, CONCLUSION, AND FINISHING UP

The analysis portion of the thesis is where you present the evidence for your argument. To summarize the point of the last two chapters, the methodology is where you describe the design you took on in order to solve the research question. The analysis, which typically ranges from 12-to-15 pages in the final thesis, is where you present the findings and analyze your evidence that you collected for the thesis. That being said, the analysis/results section of the thesis looks remarkably different from student to student. This section should be especially tailored for your particular project. Read Chapter 5 carefully if you are uncertain exactly *what* you should be presenting in your analysis.

Ultimately, this is one of the largest sections of the paper. You should be organized and think of dividing the analysis into sections. One of the crucial steps to remind yourself of in the analysis is to make certain that you are addressing the argument. You should work toward proving the argument in every step of the analysis.

Conclusion

To conclude the thesis, you should return to your main research questions and state what you found with regard to these main points. This is different than your analysis because you are beginning to answer the bigger picture question in your thesis. You are no longer going into significant detail about what you found.

In the conclusion, scholars also revert to several conventions that may be appropriate to that given project. One of these conventions is to discuss any methodological limitations that may bias or compromise your findings. It is important to be honest with the reader rather than hide something that you had wished you done differently. Identify any problems with your sampling, instrument, or analyses that may impact your findings. This is not to say that you should undercut your findings. Your contribution is unique and an important addition to the scholarly conversation, no matter the limitations.

Another convention that scholars resort to in the conclusion is to think of findings and suggestions for future research. You can think about this in several ways: Are there broader public policy implications for your findings? Are there additional elements to these findings that need to be further addressed? Can you discuss your limitations as an important area of study for scholars to undertake this topic in the future?

The conclusion is an opportunity for you to re-state your original objectives, but to also connect to the broader, more important implications of your research.

Senior Conference

A significant portion of our department's objectives is to teach students to be effective oral communicators. Many of our courses encourage students to partake in presentations to scholarly audiences. The culmination of this objective is in our annual **Senior Conference**. The Senior Conference is an event where every senior presents the work they have done in their thesis or internship course. Each of our seniors are working to solve a research question based on their experience or original research. The Senior Conference is modeled after academic conferences.

In an academic conference, researchers from around the nation gather together to present their work to other scholars with similar interests. These conferences organize researchers into **panels**. Panels usually bring together four to five different researchers who present their manuscripts in a 15 to 20-minute oral presentation. These panels are small discussion groups that are led by experts in the field, commonly called **discussants.** The discussant does not present their own research on the panel, rather they provide thoughtful comments after reading each of the manuscripts and facilitate discussion amongst the audience. Our professors in the department usually attend *at least* one academic conference a year.

In the Senior Conference, we organize anywhere from 10 to 15 panels of senior projects. Each panel has approximately 4 to 5 student presentations and lasts about an hour and a half in total. Each panel is led by a faculty member who serves in the role of discussant. Each individual student is given 10 minutes of time to present his or her senior thesis or senior internship paper. Students typically have a PowerPoint presentation that accompanies their oral presentation, although this is not a requirement. At the end of all presentations within a panel, each panel has a discussion period of 30 to 40 minutes where students answer questions about their respective projects.

Turning in your thesis

To turn in the thesis, students must submit two copies of their work. Both copies must be bound. This is a service that most copy shops offer, including our Bronco Copy & Mail shop in the Bronco Student Center. We require that students use a velo-bind, which is a special "flat" binding. The paper must fall within 30-40 pages, which only includes text. Graphs, figures, tables must be in an appendix section. The title page, abstract, front matter, appendix, works cited pages do not count toward your final page count.