Lessons Learned from a Small Department's Attempt to Structure Curriculum

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Abstract: We commonly tell our undergraduate students that we want to prepare them in a variety of ways. We want them to be able to understand data, think critically, write well, and know how to construct an argument. These goals should arguably be central components of a liberal arts education and political science major. However, it is difficult to directly impart these skills on students unless they are consistently part of one's program of study. In this analysis, we compare the curricula in a small department that provides flexibility to students on course scheduling and highlight areas of potential growth for building these skills throughout the 4-year degree. We find the need for further conversation regarding class design and skills developed as an important goal. Further, we highlight the importance of a multi-class approach to teaching students research design, statistical literacy, and academic writing. While this is not enough to build these skills, we find it is an important first step.

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A Quick Caveat/Introduction

We have done a large amount of reading about the development of critical thinking, writing skills, and data literacy. But, we have not had a large amount of time to write up a useful literature review. We are becoming increasingly convinced that it is impossible to isolate these three components as doing one of these skills well will help students develop the other two. We wanted to write a literature review with this in mind; but, did not have the time to write one that we could be proud of, thus we are electing to not include our very early draft of a literature review in this paper.

This project is really our attempt at doing the best we can to serve our students. We want them to be educated citizens. We want them to be better researchers. We want them to have the ability to reason through their perspectives effectively. Finally, we want our students to be able to connect all of this together in the written form or in conversation. In short, we want our students to have civic skills, and marketable skills that will allow them to be successful in their chosen profession.

As a result, we have undertaken the task of trying to measure and test how we are doing at helping students develop their critical thinking, writing, and data literacy skills. This draft of a paper is a beginning in this self-study, and we are sincerely hoping to learn from our colleagues at the conference about what else we can do to measure how we are doing. We will next discuss the broader environment we find ourselves in at the university. The lion share of our paper discusses the way we are currently doing the 3-course research module in the political science department. Then we will discuss what is causing us to look at this now with more rigor. A short discussion of our plans to measure these skills as well as what we have done to measure these skills already will follow. Then, we will quickly summarize the results of a survey of current students regarding their

self-evaluation of learning these skills. Finally, we will discuss where we will go from here in measuring how our department is doing with these goals.

Our Environment

We both teach in the political science department at Wilkes University. This is a small (2000 FTE), non-selective, and non-religious, university in Northeastern Pennsylvania. The university relies heavily on tuition dollars, and its two largest programs are Nursing and Pharmacy. The liberal arts, like in many places, are often targeted by administrators because of their lack of direct connection to employment. Faculty are expected to teach 21 hours a year, unless there are course releases for service. However, one feature of teaching at Wilkes compared to other institutions is the flexibility that faculty have in designing their own courses and curricula.

The political science department is part of the Division of Social and Behavioral Sciences at Wilkes. This means that we work alongside faculty in Sociology, Criminology, Economics, and Psychology. There are four political scientists at Wilkes. One of the political scientists serves as the chair of the division and primarily teaches courses for our pre-law students, and criminology majors. Another primarily teaches courses on comparative politics. One of us serves as the Director for the Study Abroad program at the university and has a reduced teaching load which means a focus on the Research Methods course and the senior capstone course along with international relations courses. The final member of the department teaches the American survey course, upper-level American politics courses, and the Statistics course.

The political science department has control over two majors on campus, and serves as a core provider of courses in another major. The political science major averages around 40 students in recent years, and the international relations major hovers around 10 students. The final major that

regularly takes courses in the political science department are Criminology students, and there are around 70 students majoring in that program at any given time. Most students come from Pennsylvania or the neighboring states. Around 46% of the student body is first-generation.

The goal of this paper is to discuss the political science curriculum and how it prepares students in that major, but students in the international relations or criminology major are consistent parts of many of our classes. This has an impact on our ability to map the goals of our program without regard to faculty concerns in the criminology program specifically. However, we will now discuss the way in which our students progress through the political science major if they are following the standard schedule.

The political science major at Wilkes requires students to complete 44 hours of courses in the program. Like many undergraduate majors, we expect students to take a broad range of courses in the different subfields of the discipline and then allow them freedom to choose their upper-level courses. In total, 23 of the 44 hours are from required courses, and the other 21 hours can be in whatever the student chooses. The 8 courses that are required for all political science majors to take at Wilkes are: Intro to American Government, Intro to International Relations, Intro to Comparative Politics, Intro to Political Thinking, a 2-hour Career prep course, a Research Methods course, a Quantitative Reasoning course, and a Senior capstone course.

In the Freshman year, we would advise students to take at least the Intro to American Government and Intro to International Relations courses. Students who are sure they want to do political science will often complete Intro to Comparative Politics in this year, or they can wait and complete it their Sophomore year. Students are expected to complete the Intro to Political Thinking in their Sophomore year along with taking 2 or 3 political science electives. In general, we advise students to complete an elective course or two every semester beginning in their Sophomore year.

The Political Science Research Module

The Political Science Research Module is a three-semester, nine-credit research project required for earning a degree in political science. It occurs over three semesters beginning in the junior year. The research project begins with Research Methods in Political Science in the Fall semester of junior year, followed by Quantitative Reasoning for the Social Sciences in the Spring semester of the junior year. The two courses provide the knowledge, skills and opportunity to lay the foundation for the writing of the final research paper, which is completed in the Political Science Senior Project class. In this final course students work independently under the guidance of an advisor to execute the research project proposed in Research Methods in Political Science.

The Research Module is structured to take place over three semesters and requires several papers and one formal oral defense. During Research Methods in Political Science, a number of assignments are required of each student in order to sharpen the research idea into a feasible research proposal. Additional details of these assignments are appended to this article. In Quantitative Reasoning for the Social Sciences, the student learns how to use statistical methods to test empirically the questions developed in Research Methods in Political Science. The student is encouraged to locate an appropriate data set or to gather original information, and during the course, students are taught various techniques to analyze the data and to interpret the results. Students will find that the first two courses in the sequence require more additional tasks than the last semester; the objective of the more frequent assignments in Research Methods in Political Science and Quantitative Reasoning for the Social Sciences is to help students get started on the research process. Once students have identified and designed a research strategy in Research Methods in Political Science, and identified and analyzed the data in Quantitative Reasoning for

the Social Sciences, the bulk of Political Science Senior Project is devoted to completing the analysis and writing the research paper.

We've arranged our courses in this sequence in order to get students acquainted first with the fundamentals and then to transition them to more complex concepts and processes. A brief overview of main course objectives is below:

1. Research Methods in Political Science (3 credit hours)
    - Topic Selection
    - Literature Review
    - Methodology Section
2. Quantitative Reasoning for the Social Sciences (3 credit hours)
    - Data set identification
    - Data Collection
    - Analysis and interpretation of the data
3. Political Science Senior Project (3 credit hours)
    - Completion of data analysis.
    - Completion of the research paper.
    - A formal defense of the research project.

Research Methods in Political Science

Research Methods in Political Science explores and evaluates research methods in political science. A survey of the major concepts, theories and methods of political science as a discipline is offered. The class focuses on the preparation of a research design and a review of qualitative methods. On successful completion of this course, students should be able to describe and assess

the logic of political science research and to achieve a good understanding of the key qualitative methods of political science.

Student Learning Outcomes

1. To help students understand political science as a discipline with its own theoretical approaches and research techniques. The readings and writing assignments for the course have been selected to advance this goal.
2. To give students exposure to qualitative research methods, and to allow them to evaluate for themselves the strengths and weaknesses of each approach. Students accomplish this through practical exercises and written assignments.
3. To expose students to the language and professional publications in Political Science. Students receive a library tutorial, and are assigned professional journal articles to read. Students are quizzed on the material and given exercises to practice the concepts.
4. To improve the student's writing skills. Students prepare several drafts of most writing assignments incorporating the instructor's comments to improve each draft.

Teaching Strategy and Assignments

The teaching strategy for this course is a combination of lecture and exercises applying the theory. In order to make the class more interactive and interesting, one textbook is used for lecture and another one for class activities and problem-solving. The course evaluation is based on elements designed to tap different kinds of skills: written tests, active class participation, first research paper draft, critique of the first draft, final paper and final presentation.

The research proposal has several key components: the introduction, the context and relevance of the problem, the research project objective, the research question, the working definitions, the

variables and operationalization, the hypothesis, the literature review, the methodology and the preliminary analysis. One of the most difficult steps in the research process is the topic selection that needs to satisfy a few important characteristics. First, the research project needs to be "do-able" in the limited time frame of three semesters. This criterion often involves narrowing the focus of the research. Second, the project may not simply make use of secondary source materials on the topic, but must also involve original analysis.

The assignments in Research Methods in Political Science consist of an annotated bibliography, the first draft (that includes the Research Question, Hypothesis and Literature Review), a critique of the First Draft and the Final Paper. For all of these, the main goals are to help students make meaningful comparisons, analyze data and recognize the potential of their hypotheses to falsified. Additional details of these assignments are appended to this article.

Quantitative Reasoning for the Social Sciences

This course is an introduction to quantitative analysis for the social sciences using SPSS, one of the most frequently and widely used statistical packages in the world. Students will learn how to enter and manipulate data in SPSS, apply and interpret statistics from descriptive through multiple regression, and test hypotheses using statistical methods. One area under consideration for the department is moving the statistical software to R because of its more practical application outside of academic and its ability to create better graphs compared to SPSS. However, that would mean getting the approval of faculty in Psychology, Sociology, and Criminology because of the overlap of students.

Another area of difficulty found in teaching this course is that students are often afraid of the work because of their fear regarding math. Many students in these programs hope they will never have

to do anything above the basic College Algebra course and are not excited about taking a course on statistics and having to use computer software to complete assignments. As a result, a large portion of time is spent reminding students they can complete the work successfully and walking them through expectations as well as teaching them statistical theory. We have found that students do well when they begin to understand this a different type of course than a standard college course where regurgitation of information is acceptable most of the time. Instead, they start to enjoy the fact that this allows them to create their own product, after some prodding.

Student Learning Outcomes

1. Learn and apply descriptive and inferential statistics to collected data. This means understanding what measures of central tendency a student ought to use, and understanding how the type of variable affects how one ought to discuss it for the audience.

2. Interpret the results and write their interpretation in plain English. This implies that students will learn to explain how their results apply to their hypotheses and how to discuss their data correctly.

3. Correctly graph and display data. Students are expected to produce tables and graphs that will help them explain the results of their tests and allow them to correctly explain the results they have from statistical testing.

4. Correctly use a computer statistical package (SPSS). This remains a major hurdle for many students throughout the semester. They often have difficulty with all of the choices provided by SPSS and the lack of ability to save one's code easily makes it difficult for

them to remember what they have done in the past. As a result, part of this course is the repetition of this practice so they are able to effectively use SPSS for their capstone project if it is appropriate.

Teaching Strategy and Assignments

As described above, students are often extremely nervous entering the Quantitate Reasoning course. This means that we have to be careful not to overload students with too much math that their brain stops learning. However, it is important to make sure that students are at least aware of the more important statistical concepts underlying their work. Second, students come in with little knowledge about how to understand statistical analysis and it requires work to explain how work like this should be read and interpreted. Finally, students need to be walked-through each step in the process when learning a new test in SPSS.

The teaching style for this course mixes lecture and walk-throughs. The first few weeks of the course are a quick reminder of research methods and where data analysis fits into the overall process. We spend considerable time discussing types of variables, levels of measurement, and the assumptions underlying sampling methodology as well as broader statistical theory.

After that first several weeks are completed we begin to use SPSS. A typical week will have one class day that is purely lecture discussing the testing or skill being learned. The goal of this is not to have mastery of the concept but primarily to be aware of how to use the test and its relationship to the assumptions from earlier in the semester. The second class day will likely finish this discussion and we will begin looking at how to do the testing on SPSS. This means that we will have all students use the same data set and we will walk through the process of testing theories using that specific test. We move from simply providing descriptive statistics to running bi-variate

testing (correlation tables, T-tests, ANOVA), and end the semester with multivariate testing (both OLS and Logit).

Grading for the course is fairly straightforward for the students to understand how they are doing. Students will have 7 short quizzes (worth 10 points) throughout the semester that tie in with the lectures of recent weeks. The syllabus says these are unannounced quizzes, but we often let them know to expect a quiz in the next few sessions so they can prepare. The students will have their lowest quiz grade dropped in case they miss class on the day of a quiz or if there is one section they struggle with.

Second, students complete 10 SPSS assignments throughout the semester. We walk students through all the assignments and never ask them to do anything in SPSS we have not shown them how to do. Once we are done with the walk through we release the assignment on the university LMS (D2L) and students have a week from that date to complete the assignment. Once again, we drop the bottom assignment as a way of motivating students to keep working even if they do poorly on one assignment.

Finally, there is a midterm exam worth 45 points or 15% of the final grade and a final exam worth 60 points. These exams are a mixture of statistical theory and understanding how to analyze the testing we have covered in the course. For instance, the final exam often asks students to discuss the results of multivariate analysis like OLS and Logit and explain what the numbers mean. It will also ask students to explain practical applications of statistical theory like sampling, the normal distribution, or the central limit theorem.

Having so much overlap between the programs is a benefit to our program because we have relatively few majors between political science and international relations (around 50). But, there

are differences between the interests of a normal political science undergraduate student and a criminology undergraduate student. Further, the two programs teach the Methods and Quantitative Reasoning course in a different sequence. This means that both courses have some overlap because there are students who have not been exposed to the material in either class. It also changes the way both courses are taught because of the different nuances expected by the faculty in each capstone project and the different types of questions being asked by students in different majors. As a result, there are some changes we may desire to make that are difficult to do so given our interconnectedness with different programs.

Political Science Senior Project

In the Political Science Senior Project, students are first reintroduced to the various research practices and designs covered in Research Methods in Political Science. Then, the focus moves to providing students the resources they need to successfully research, write and defend their research paper. At the conclusion of this semester, students present their final capstone to the Political Science faculty.

Student Learning Outcomes

1. To learn to clearly state a research question and a rationale or discussion of the significance of the research project. To accomplish this objective, students will learn how to write a clear and concise introduction to the capstone paper.
2. To understand the importance of a literature review. To accomplish this objective, students will receive instruction on, and will be provided examples of, quality literature reviews. Students will then write and refine their own literature reviews.

3. To learn the relationship between the research question and the methods appropriate to conduct the research. To accomplish this objective, students will be presented with a review of research methodologies and will then be required to select and use the appropriate methodology for their research papers.
4. To learn how to present research findings, in both written and oral forms. To accomplish this objective, students will be required to write a research section for their capstone paper, which analyzes whether the evidence supports or refutes the hypotheses.
5. To understand the relationship between scholarly research and the policy implications. To accomplish this objective, students will be required to *interpret* their research findings and report on what the policy implications will be.
6. To learn about the communal and collaborative nature of the research process. To accomplish this objective, students will give oral presentations throughout the semester on the status of their research paper and will be required to provide helpful feedback/constructive criticism of fellow students' papers.

Teaching Strategy and Assignments

The teaching strategy for the Political Science Senior Project is lecture and a variety of interactive activities designed to help students finish their proposed research project. Students continue to meet with the instructor on a regular basis to communicate both progress and problems. Successful completion of the project usually requires multiple revisions and changes to the original project.

At the end of the semester students are expected to make a formal presentation and defend the research and its conclusions before both departmental faculty and other students. While the organization and presentation varies by subject, all successful presentations should address the

findings and conclusions of the study, highlight the important contributions made by the research, and discuss of the limitations of the paper. Students will also respond to questions by the faculty on both the specific research and on the general research area.

The assignments in Political Science Senior Project include a research proposal, the first draft, a second draft and the final paper. Additional details of these assignments are appended to this article. The focus on a good literature review comes from the desire to help students see how existing projects relate to their paper and understand why they need a theoretical framework. The next priorities are linking theory to methodology, refining the hypothesis and selecting appropriate case studies.

A new assignment has been recently introduced in an attempt to help students reflect about their paper before starting the research process. An effective assignment described what they are planning to do; persuasively convey why this is a reasonable, important, and interesting plan; and explain how they intend to execute the plan. The different parts of the assignment have been designed to help students achieve their goals. The feedback on the new assignment has been great and we will continue to use the tool in future years.

Our Current Concerns

There are four animating factors leading to the analysis we are currently undergoing with the 3-semester sequence and broader discussion of the political science program. First, the two of us now have more control over the way we are teaching these courses than in past semesters. Dr. Maierean has been teaching the research methods course since 2014, but took over the capstone course in 2018. Dr. Toll took over the Quantitative Reasoning course from a retired colleague in Sociology in the spring 2022 semester. This provides the political science department with more

opportunity to structure this sequence more directly tied to our interests. We still need to get approval for major changes from other departments, but the day to day teaching, syllabus construction, and in class focus can be designed more in line with political science training.

Second, we have seen an increasing number of students struggling in all three components of this sequence, which makes it harder for them to finish their degree on time. Students are having difficulty writing the research proposal and not finishing the research methods course. This makes it harder for them to get everything out of the quantitative reasoning course, and then they start the capstone process behind. We are also seeing students have a harder time connecting their research methods course to their capstone project. These factors are concerning to us and we want to determine if there are necessary changes to help students develop their skills most effectively.

Finally, like many who are interested in the pedagogy of political science, we are constantly concerned about whether we are doing the best possible job at preparing students for their careers. We will have several students every year who are planning on graduate or law school, but the majority of our graduates are planning for some other route of career. Thus, we constantly wonder if we are giving them the skills necessary to be successful. On top of this is the fact that we see students struggling more than ever as we slowly come out of COVID-19. Students have more difficulty getting work done on time, and it is less common to have students turn in good work. Looking into the future we are concerned about the skills that students will be coming into college with, which makes it even more important that we are giving them the best chance of success through the education we provide.

What Have We Looked At?

We have three main ways that we are planning on looking at our curriculum in a specific and broad way in order to determine what is working and what is not being successful. First, we are working through a study of our current curriculum and course work. The goal is to work with the other faculty in our department to determine where faculty believe we are teaching critical thinking skills, writing skills, and data analysis skills. We will use that to target areas for improvement in courses that are regularly featured in the curriculum. This will help us to make sure we are building these skills before students get to the three-semester capstone sequence.

Second, we are planning on surveying recent alumni to determine what skills they feel they learned from the major. We will also ask these recent alumni about skills that they wish they had learned while a student in our department. Hearing the views of these graduates who have been out of college for less than 10 years will allow us to know what skills are most in demand right now for recent graduates. Along with a more developed review of research and career readiness discussion we envision changing courses to fit these competencies but also addressing some of these concerns in the Career readiness courses that students are required to take but often do not enjoy. Another thing we will continue to look at related to this component is to look more carefully through course evaluations of the three course sequence to determine if anything is highlighted about developing skills for students.

The final piece of this puzzle is the one area we have completed at this point. We reached out to the 40 political science majors in a first-round survey, with a response rate of 45% after two requests for completion. The goal was to start with this group even though our courses need to at least be relevant for students in three different majors. We asked students 15 different questions

through google forms without collecting identifying information on them. The full list of questions asked of students in this initial survey can be found in the appendices to this document. Yet, there are some initial results worth discussing as we move forward in this process.

Summary of Findings

We had hoped for a higher response rate than 45% and are planning on implementing something similar to this survey in future iterations of the capstone project. The students were fairly well-balanced in terms of year in school with freshmen being slightly under-represented (16.7% of respondents). All of the students who responded had completed at least 2 of the 4 required core courses in the program, and 67% of the students have completed at least three of the core courses. Half of the respondents have completed the Research Methods Course, and only 1/3 students have completed the Quantitative Reasoning course at the time of the survey (January 2023).

The primary interest for this first set of analysis is to see the self-evaluation of students as it relates to learning critical thinking skills, writing skills, and data analysis skills. We asked students to answer on a 1-5 Likert scale, with 1= very rarely and 5= very often, how often they are challenged on each of these three areas. These questions are primarily asking students about how often they are challenged to develop these skills in class. We will be careful not to read too much into the

Table 1 provides some initial data to answer how students self-report on these questions. There are two immediate takeaways to this data. First, there is no clear pattern among students who have completed the methods course, the quantitative reasoning course, and those who have not completed either of these summative courses. This could imply any number of things. One

potential argument is that we are doing a good job of requiring students to think critically and write intelligently before they get to these courses and these courses serve as a summation. Another perspective could be that students do not see the value added in the research methods and quantitative reasoning courses, which would then imply no clear difference between those who have completed the courses and those who have not. Finally, it could simply be a condition of a smaller sample and that college students do not see the bigger picture when filling out a 5-minute survey. More discussion with students is certainly warranted to get at whether they are learning the skills before they get to this 3-course sequence or if they are not understanding the added value to these courses.

Table 1:

Self-evaluation of skill development among students

Question	All students	Completed Methods	Completed Quant	Completed both	Completed neither
Critical Thinking	4.38	4.44	4.2	4.25	4.375
Writing Skills	4.44	4.44	4.4	4.25	4.375
Understand data	3.22	3.111	3.2	3	3.25

The second primary takeaway from this preliminary analysis is that we are not doing as good of a job, in the student's eyes, of teaching them how to understand and interpret data. These scores are consistently a point lower on a 5-point Likert scale. This signals that students are much less comfortable with the level of data engagement they have in courses. And, it is something we should take into consideration. What is more interesting is the lack of difference between

students who have completed the quantitative reasoning course and those who have not. Further discussion with students will need to occur to try and understand this more fully.

The survey did provide an opportunity for open-ended answers regarding student opinions on how we develop critical thinking, writing, or data literacy, and this was something that most students contributed to. Looking specifically at the development of critical thinking skills, most students (88%) responded to a question about a specific course that has helped them develop their critical thinking skills the best. One student responded, “In some of my political science classes I have been required to take existing theory and apply it to theoretical issues and explain whether or not the theory is applicable. This helped develop my critical thinking skills because it relied on an understanding of the theory and situation, and for the work I had to build an argument for or against its applicability.”

Another said, “A simple example is that I find myself writing down new words that I haven't seen before when I complete my assigned readings. Forcing me to not only understand the definition and context in which it's being used but to make sure that I'm interpreting my assignments correctly in order to properly analyze the given material and coursework.” And, another stated, “Being forced into having a discussion about material in class also forces students to think about the things that they are going to say. For instance, I believe I am gaining a better understanding of polarization in America because I have to answer questions and discuss the materials we are reading.”

None of the students reported one of the summative classes, and 37.5% reported one of the core courses as being important to their critical thinking development. Other students reported courses that were electives in the major and not required. This continues to present evidence that

mapping the curriculum more clearly is something to consider if we want to clearly expect students to develop critical thinking skills.

When looking at the question asking students if they are expected to develop their writing skills, we find evidence that the research methods course is meeting its goal because 67% of students who have completed the course specifically name it for helping them to develop their writing skills. This is a positive signal for how students feel they have learned to increase their writing ability after completing the course. One student said, “Research Methods introduced me to entirely new form of writing that I had never been asked to complete until that semester. I would say that would have challenged my skills the most.” Another offered a broader statement, “I don't think I have had one class that has required me to write more as pretty much all but a few of my political science classes rely on a lot of writing. I can say that pretty much all of these classes helped me better improve my writing as it allowed for me to build on my skills over a period of time.” In general, students feel they do a lot of writing and are expected to get better throughout their time as students.

The question about understanding data provides clear room for improvement considering how much lower it was than the other courses. There is some positive evidence as 67% of students who have completed the quantitative reasoning course named it as one of the places where they have developed the most data literacy skills. In general, fewer students were able to mention a specific class that has helped develop those skills, but the broad outline was that only a few course routinely expect students to engage in data literacy. Some students mentioned the Introduction to American Politics course, required of all majors, because it data analysis is required in the course due to its being one of the 5 social science courses in the general education curriculum requiring some measurement of data analysis.

Where we are Going

There are areas where we want to continue with this investigation. First, we want to continue thinking about ways to help students develop these skills throughout the curriculum. One discussion already being had is how we can specifically build some of these points into our core courses. We already require students to engage in data literacy in the PS 111 course. Students already feel they are engaging in critical thinking in their PS 151 course. But, we need to map how we can build these skills more clearly in the core curriculum and use the capstone sequence courses to build on these developed skills.

Second, we see clear room for improvement with our data development of data literacy. Students do not feel they are learning these skills very effectively and we need to figure out ways of helping them get introduced to these concepts before taking the quantitative reasoning course. We also believe that students need to be exposed to data regularly in their courses so that the quantitative reasoning course is not so difficult for them. Further, we believe that we need to do better at simply teaching students to understand the importance of data literacy in today's world and why it matters for them to put the effort into learning these skills.

Finally, we believe it is important to continue discussing these issues with stakeholders in the division and alumni of the department. Our fundamental goal is to help students develop their skills so they can be successful in their chosen career path. This means we need to discuss how we did with recent alums, and what they feel would help them out in the job market today. This also means continuing to look at research and economic trends so that we are helping our students learn marketable skills.

Appendix

WRITTEN ASSIGNMENTS

Research Methods in Political Science

Assignment 1: Hypothesis and Annotated Bib (Pass/Fail)

- When submitting the paper topic, you must have a **clear, one sentence hypothesis**.
- **The annotated bibliography will be a list of your best 10 sources to date, with a short (3-4 sentence) description of what each offers to your topic.** Your sources should be from recognized scholarly books AND journal articles. Journal articles must be a minimum of 10 pages long. In addition to both books and journal articles, your bibliography may include a maximum of 2 web-based sources. These must have an author and be from an educational institution (no .com or .net addresses, and no Wikipedia).
- You should also include an analysis of how your sources fit together: Do they complement each other's arguments? Do they use the same factors of analysis and how does this affect their conclusions? Do they come to similar or different conclusion and why?

Assignment 2: First Draft (Research Question, Hypothesis and Literature Review)

- In the first draft of your paper you are expected to articulate **your research question**.
- You are also expected to develop, present and defend **a working hypothesis**. Your hypothesis should demonstrate strong critical thinking and thoughtful engagement with the bibliography.
- The first draft should also include **a literature review.** Students should turn in a draft literature review that is organized by idea/theme and that has evidence of critical
    - analysis of the literature that one is integrating. A good understanding of the debates in the conflict literature should be evidenced in this draft.

Assignment 3: Critique of the First Draft

- The critique of a classmate's first draft should be a critical response to the paper. Your response should deal with all major arguments of the paper. Your task is to provide reactions and advice that can help your classmate improve her or his paper. I want to see how you react critically to an issue and develop arguments in a coherent manner.

Assignment 4: Final Paper

- You are expected to complete a fifteen-page research paper on a topic chosen in consultation with your professors.

The paper will have the following organization:

  - Introduction
  - Context and relevance of the problem
  - Research project objective
  - Research question
  - Working definitions
  - Variables and operationalization
  - Hypothesis
  - Literature review
  - Methodology
  - Preliminary analysis: cases and concepts
  - Conclusion
  - Reference list

- The final grade also includes the first short preliminary assignment (paper topic and annotated bibliography) related to the planning of your final paper.

- You will also present your final paper to the class. The presentation will be based on the content of your paper and should be 10-15 minutes long. You may not read directly from your paper, but your presentation should follow the paper structure.

Political Science Senior Project

Assignment 1: Senior Project Research Proposal

- An effective proposal should describe what you are planning to do; persuasively convey why this is a reasonable, important, and interesting plan; and explain how you intend to execute your plan. The parts of the proposal template described in the assignment are designed to help you achieve these goals. Your proposal must incorporate all required components.
- Your proposal must incorporate all seven components:

  1. What is the general area in which your study is located?

  Introduce your topic and position your study within a larger area of related research in order to provide necessary context for readers.

  Approximate length: 1-2 paragraphs

  2. What previous work in this area has led you to your specific question?

  Provide a succinct literature review that sets the stage for your research question. Begin by discussing what important problem(s) previous researchers have identified, including what has been discovered or agreed upon. Next, explain what has NOT been successfully solved, what gaps remain, or what questions have not been asked as indicated by your research thus far. This section may include a discussion of research that deals specifically with the question you are posing, or it may be more general, depending on the state of research in your topic area and on the type of proposal you are writing.

  Approximate length: 1-2 pages

  3. What specific research question and hypothesis do you intend to address?

  Introduce your specific question, making sure to include enough detail so that the reader can get a clear sense of what you want to discover. It should be evident how your research question has emerged from the gaps in research you identified in the literature review.

Include your one-sentence hypothesis and clearly indicate your independent and dependent variables.

Approximate length: 1-2 paragraphs

4. Provide a rationale for investigating your research question.

Justify why your question is worthwhile for study. Why is it interesting? Who will care about the results (intended audience) and why? The focus here should be more specifically on the reasons, theoretical and practical, that make your question important to ask at this point in the history of research on your specific topic.

Approximate length: 1-2 paragraphs

5. Specifically, how will you address your research question(s) (data collection/analysis methods)?

What data will you use? How will you collect the data? What methods of analysis will you use (quantitative/qualitative/mixed)? What theoretical constructs will you rely on? What will you do first? What will you do next, etc.? How long will it take? Are there any ethical considerations (e.g. human subjects)?

Approximate length: 1-2 paragraphs

6. What is the potential broader significance of your proposal?

Based on the research you have conducted for your proposal in PS 261, summarize how your study might contribute to or challenge the ongoing scholarly, disciplinary, or professional conversation about your topic. How might it contribute to the broader knowledge in the field? When you have answered your question, what will we know that we did not know before? Will this enable us to ask or answer any further questions? If so, what are they? How might it help others to rethink issues in the field? Relating this significance back to evidence/gaps identified in your literature review will be helpful.

Approximate length: 1-2 paragraphs

7. Bibliography

Incorporate 10 peer-reviewed articles or academic books/sources as evidence throughout the proposal and include a correctly formatted bibliography page. Make sure to use only one citation style consistently throughout your paper.

Assignment 2: First Draft (Research Question, Working Hypothesis and Literature Review)

- In the first draft of your paper you are expected to articulate your **research question** and you expected to develop, present and defend a **working hypothesis.** Your hypothesis should demonstrate strong critical thinking and thoughtful engagement with the bibliography.
- The first draft should also include **a complete literature review** (not to be confused with an annotated bibliography).
- Your sources should be from recognized scholarly books AND journal articles. Journal articles must be a minimum of 10 pages long. In addition to both books and journal articles, your bibliography may include a maximum of 2 web-based sources. These must have an author and be from an educational institution (no .com or .net addresses, and no Wikipedia).

Assignment 3: Second Draft

- If you want to graduate in May, a second, cleaner draft, which incorporates all of your professor's suggestions, must be turned in on the due date.
- Important: Make sure the second draft has been revised by the Writing Center. Attach to your paper a signature page or a photo of the confirmation page signed by a Writing Center consultant.

Assignment 4: Final Paper

- The Final Paper should include all sections of the Research Design checklist.

- The final capstone presentation will be based on the content of your paper and should be 15 minutes long. You may not read directly from your paper, but your presentation should follow its structure.
- Important: Make sure the final capstone has been revised by the Writing Center. Attach to your paper a signature page or a photo of the confirmation page signed by a Writing Center consultant.

Quantitative Reasoning

Sample assignments that are from the beginning, middle, and end of the semester

PS 265/SOC 370: Quantitative Reasoning in the Social Sciences

Assignment 1

- Using one of the provided data sets complete the following.
- You cannot use the same dataset we used in class.

1) Choose two nominal, two ordinal, and two continuous variables with more than 100 cases.

2) Identify the type of variable it is and explain how we know it is that type of variable.

3) Run frequencies, including mean, median, mode, and standard deviation. Explain the number of missing data for each of the 6 variables. Run a histogram of each variable with normal distribution included. (Provide output)

4) Make a new variable with one of the continuous variables (either binary, nominal, or ordinal). Run the same analysis from step three on the new variable and show output.

5) Explain what the frequencies and distributions tell us about the distributions of variables (include all 7 variables). Do the best you can to discuss the differences in median, mean, and mode. Should we be worried about outliers? What is the range where 68% of the sample falls on each of the variables? This should be a wonky number…even for binary variables.

PS 265/SOC 370: Quantitative Reasoning in the Social Sciences

Assignment 5

- Using one of the provided data sets, or one you find on your own complete the following.
- You cannot use the questions (theory) we used in class.

1. Write 4 hypotheses. At least one independent variable needs to be a dummy (binary) variable, but all independent variables cannot be dummy variables. How was each variable measured? Identify the level of measurement for each variable. Fix coding issues, and explain what was done (this will take time to write and do well)

2. Run and report the correct descriptives. This means showing me output and then telling me what is important descriptively about each variable.

3. Run bivariate correlation to produce the matrix

4. In plain English, are your hypotheses supported; that is, how are the four independent variables correlated with the dependent variable. Make sure that you have a minimum of 400 cases with listwise deletion.

PS 265/SOC 370: Quantitative Reasoning in the Social Sciences

Assignment 6 (scatterplot and t-test)

- Using one of the provided data sets, or one you find on your own complete the following.
- You cannot use the questions (theory) we used in class.

1. Building off the dataset from Assignment 5. Keep two hypotheses to test further. One with a continuous variable as independent, and one with binary as independent. Explain coding and variables again for the ones being used in this assignment (if needing to fix, do so). Run and report correct descriptives. This means showing me output and then telling me what is important descriptively about each variable.

2. Produce a scatterplot for your hypotheses (should be 2). Explain what it is telling us about relationship, strength, and direction. Which one is most useful?

3. Run t-tests for your hypotheses. Make error bar graphs. Produce output

4. In plain English, are your hypotheses supported; that is, how are the independent variables correlated with the dependent variable. Which set of testing (scatterplot, error bar, or t-test) helps make the most sense for you?

PS 265/SOC 370: Quantitative Reasoning in the Social Sciences

Assignment 10 (Regression)

- Using one of the provided data sets, or one you find on your own complete the following.
- You cannot use the specific questions we used in class.

1. Write 3 hypotheses, each hypothesis with the same dependent variable. One independent variable needs to be a dummy variable. Identify the level of measurement for each variable. You need at least 6 IVs in your model.

2. Run appropriate descriptives/frequencies for the variables in SPSS. Report the correct descriptives.

3. Run correlations (with listwise deletion and N > 400)

4. Run the correct bivariate testing for each of the IV's with the dependent variable (that means knowing how to test your DV and IV in a bivariate setting). You should also produce scatterplots or error bar charts (whichever you prefer).

5. Run the regression. If OLS (continuous DV), check for multicollinearity. Does anything need to be fixed? If logit, run classification plots. What evidence is there of influential outliers? Fix anything that needs fixed and rerun models if necessary.

6. In plain English, are your hypotheses supported; that is, how are the independent variables related with the dependent variable. Compare the coefficients with the correlation coefficients. Do you see any differences? Why would that be the case?

Questions Used in Survey:

What year are you in college?

Which of the following core courses have you completed?

What is your overall gpa range?

Have you completed PS 261 or SOC 371?

Have you completed PS 265 or SOC 370?

On a scale from 1-5, how regularly are you challenged to think critically in your political science coursework?

What are some examples of ways you have been challenged to think critically in your coursework?

What political science class has helped you develop your critical thinking skills the most?

On a scale from 1-5, how regularly are you expected to write and be challenged to write better in your political science classwork?

What political science class has helped you develop your writing skills the best?

On a scale from 1-5, how regularly are you expected to look at and understand data in your political science coursework?

What are some examples of ways you have been asked to look at and analyze quantitative measures in your coursework?

What political science class has helped you the most to develop your skills at understanding data?

Is there anything you think the political science curriculum should include to help develop your skills?

Do you have any other comments that may be helpful?