

## MA: Research design and methods training

This note sketches the plan for new methods training for the MA programs (PECOS and Political Science) at the department of political science. For the political science program, the reform aims to strengthen training in logics of inference and in qualitative methods.

Moreover, the goals is to provide a more targeted and focused training in quantitative methods. For PECOS, the reform creates a more systematic, applied and integrated approach to methods training. For both programs there will be a new emphasis on data-collection and evaluation of potential strengths and biases of different types of data.

The reform includes some changes to the MA-thesis as well as one minor change to the teaching slots available for the substantive courses, as course in the third part of the autumn term now will attract first year students only. These changes will not prevent students from going on exchange in the second semester.

### Overview MA program

	Part I	Part II	Part III
1 <sup>st</sup> semester	Logics of inference in political science	Applied statistics I	Substantive course
2 <sup>nd</sup> semester	Substantive course / exchange	Substantive course / exchange	Substantive course / exchange/Applied statistics II
3 <sup>rd</sup> semester	<ul style="list-style-type: none"> <li>Digital data collection in political science</li> <li>Survey design and survey data in political science</li> <li>Field research for political science</li> </ul>	Designing and conducting a study: quantitative and qualitative analysis	Master thesis
4 <sup>th</sup> semester	Master thesis	Master thesis	Master thesis

Short description of the new courses:

#### 1<sup>st</sup> semester

- Logics of inference in political science:** How can we know what we think we know? In this course students will learn how to reason about political events and processes. They will learn to distinguish between descriptive, predictive, and causal inferences, and be able to evaluate what kind of inferences can be drawn from different types of research designs, as well as assessing strengths and weaknesses of different approaches. The course will cover small, medium as well as large N studies. Finally, students will be exposed to common threats to valid inferences and strategies for mitigating such threats.
- Applied statistics for political science I:** How can we use quantitative data to draw valid inference? In this course students will learn to use quantitative data to draw descriptive, predictive and causal inferences. Students will learn how different features in the data may enable different types of valid inferences. Moreover, students will be familiar with different datatypes and data-structure may require different techniques, but also allow for more valid substantive inferences.

- **Applied statistics for political science II:** How can we account for complexity in the empirical study of politics? In this course, we introduce causal inference and generalized linear multilevel models. Students will also learn how to address measurement error and missing data, as well as how to include prior substantive (qualitative and quantitative) knowledge in a systematic manner in quantitative research.

### 3<sup>rd</sup> semester:

- **Digital data collection in political science:** This course focus on data collection using the computer and internet to download or scrape data from websites. Many aspects of the research process can be improved with digital tools and techniques. In this course, students will learn how to search for documents online, download and merge existing datasets, scrape websites for relevant data, extract text from pdfs, use OCR on historical document collections, organize and summarize large corpuses of text, produce tailored maps and visually represent networks. The course will also cover best practices of data management, how to make political science research replicable, as well as digital security.
- **Survey design and survey data in political science:** In this course, students will learn how to use surveys in political science research. The course covers structured interviews, mailed questionnaires as well as web surveys. The course emphasizes design of survey items as well as how to include survey experiments in a manner that may allow for causal inferences to be drawn. We also cover the use of expert-surveys as a data-generating process. Finally, the course address how students can use and assess the quality of existing survey data.
- **Field research in political science:** In this course, students will learn more about how to collect data in the field: mainly through qualitative interviews, archives, and participant observation in different contexts. Sessions will cover how to design, conduct and transcribe qualitative interviews, get access to archives, and various observational techniques. Moreover, students will learn how to store and organize qualitative (text) data. A workshop in the software NVivo will be offered. The course will address research ethics and the issue of digital security during fieldwork. Students will be trained in assessing the reliability and validity of various data sources, including how to identify and address different types of bias in the data.
- **Designing and conducting a study: qualitative, quantitative or mixed methods (joint course with PECOS):** Research design is essential for valid research. In this course, students are introduced to a series of strategies for improving the design of their research as well as being made aware of common pitfalls. The course will cover large N, medium as well as small-N studies, and will offer students additional training in data analysis and presentation. Moreover, students will receive training in basic techniques for writing and managing their thesis projects. Students can design a portfolio of courses tailored to their needs and interests, along with getting general guidance for all.
- **1) The first part (Week 1 and 2) of the course – module 1 – builds on the Logics of inference-course from the first semester. This is a compulsory component that will guide the students in situating their research question in the scholarly literature, specifying their research question and aims, and selecting and the general research design for their master project (3 lectures in one week).**

- In this module, and in particular Week 2, students prepare a note (2 pages) on the research question and general design of their master project. This will feed into a pre-analysis plan/research plan to be submitted at the end of the course.
- **2) In the second part (Week 3-4)**, students choose two mini-courses/workshops among the following:
  - *How to plan, organize and conduct a (single or multiple) case study/process tracing/medium-N study (3 or 4 lectures/seminars)*
  - *How to document, integrate, analyze and present qualitative data (text) (3 lectures/seminars)*
  - *How to prepare a quantitative data set for analysis and plan modelling (3 lectures)*
  - *How to present results of statistical analysis, with emphasis on visualization (3 lectures/seminars)*
  - *How to plan and prepare a theoretical thesis (descriptive or normative) (3 lectures/seminars)*
- Students will pick at two out of five sessions, but may attend more if they like. These courses will go from week 3-4 (students attend three lectures/seminars a week). None of a-d) will be offered in parallel (in terms of exact hours) to make sure students may mix methods and sit in. The courses will build on the “data collection and data evaluation courses” from the first part of the term. In between sessions, students work on planning the similar aspects of their MA projects and writes notes on the different aspects (1-2 pages). A meeting with the supervisor(s) to discuss research question and design of the proposed MA project should be held in due course.
- **3) Third part (Week 5):**
  - Offer voluntary lab workshops in software like NVivo for qualitative studies.
  - Provide a plenary session on “how to write an introduction” and on the writing process in general (3 hours lecture – with Academic Writing Center?)
  - Students continue to work on their design and plan for analysis, and produce a complete research plan/pre-analysis plan outlining, in detail, how they plan to design the study and conduct the analysis for their master thesis. The exact nature of this plan will depend on the nature of the research question and design. The department will offer general templates.

### **3) In part three (Week 6):**

During the sixth week students present the research plan/pre-analysis plan developed during the course in topic-based panels/workshops (ideally discussed with supervisor in advance). Each student presents and serves as lead discussant, while lecturers moderate and provide guidance for how to give feedback. This teaches students how to give structured feedback, engages them in oral discussion of research design, and ensures individual feedback for all students. At the end of the week, students submit their MA research plan/pre-analysis plan. The plans are immediately evaluated by examiners (pass/fail). Those who fail will have to resubmit within X weeks.

### Master's thesis

Given the emphasis on design throughout the sequence of methods courses, we propose to discontinue the design seminars. Instead, we suggest to impose more structure on the master thesis process. In particular, we propose a research design workshop in the first week of the 4<sup>th</sup> semester, and a thesis conference in April. Also, in the 1<sup>st</sup> and 2<sup>nd</sup> part of the 4<sup>th</sup> semester, there will be a weekly seminar, organized, and chaired by a member of the different subfields, where students get a chance to present a draft chapter from their thesis. Supervisors will be invited, and strongly encouraged to attend, when their supervisee presents. We may consider reducing the number of hours spent on individual supervision.

### Support for insufficient prior training in mathematics

Some students experience that their prior training in mathematics is insufficient to fully benefit from the courses in statistics. To address this, there will be a refresher-course in mathematics in the week prior to the start of teaching, with subsequent weekly tutorials during the 1<sup>st</sup> and 2<sup>nd</sup> part of the 1<sup>st</sup> and 3<sup>rd</sup> semester.

### Overview PECOS

The revised program structure *expands* the methods training in the PECOS program, *applies* this training more consistently to the substantive focus of this program, and *integrates* methodological tools and perspectives throughout the program. This change structures the methods training according to the progression of the course and increases the key transferable skills that students take away from it.

	Part I	Part II	Part III
1 <sup>st</sup> semester	Analytic perspectives on peace and conflict	Applied statistics for peace and conflict studies	Conflict and state building*
2 <sup>nd</sup> semester	Conflict and cooperation*	Elective course/exchange	Elective course/exchange
3 <sup>rd</sup> semester	Collecting peace and conflict data	Designing and conducting a study: quantitative and qualitative analysis	Master thesis
4 <sup>th</sup> semester	Master thesis	Master thesis	Master thesis

\* one of these is required, students can take both unless they are on exchange

### Brief description

- **Analytic perspectives on peace and conflict:** What do we actually know about peace and conflict, and how do we know it? This class introduces students to fundamental logics of inference and research design as applied to peace and conflict research. The first half of this class explores these fundamental questions and surveys the state of the field. This is followed by an introduction to qualitative concepts and measurement problems, case selection, qualitative techniques such as process tracing and case study analysis, and multimethod research.
- **Applied statistics for peace and conflict studies:** This introduces students to statistical techniques widely used in the peace and conflict literature, as a logical extension of the foundational questions explored in the first course. The students will be trained to critically evaluate existing statistical research and to conduct statistical studies. Students explore key concepts, differences between different data structures, measurements and interaction effects, and assess what inferences can be drawn from various data.

- **Collecting peace and conflict data:** This new class traces the process of data generation through collection, processing and analysis. The class focuses on how to structure qualitative and quantitative data collection in conflict areas or otherwise contested environments, paying particular attention to practical and ethical considerations. Students will be trained in assessing the validity of archival documents, and challenges associated with using archival sources or other data generated in or removed from conflict zones. The class discusses how to identify and assess various bias problems, and introduces students to various data visualization techniques.
- **Designing and conducting a study (quantitative and qualitative analysis):** Joint course with Political Science. See above.

*Overview of Methods courses ISV and PECOS – Language*

<b>Course title</b>	<b>Language (assumed)</b>
STV40XX: Logics of Inference in political science (research designs)	Norwegian
STV40XX: Applied statistics for political science I	Norwegian
PECOS40XX: Analytic perspectives on peace and conflict	English
PECOS40XX: Applied statistics for peace and conflict studies	English
STV40XX: Applied statistics for political science II	English
STV40XX: Survey design and survey data in political science	Norwegian
STV40XX: Digital data collection in political science	English
STV40XX: Field research for political science	Norwegian?
PECOS40XX: Collecting peace and conflict data	English
STV/PECOS40XX: Designing and conducting a study: quantitative and qualitative analysis	English/Norwegian