Political Methodology Field Statement

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The following requirements apply to students who entered the PhD program in 2018-19 and later and to students who entered the PhD program in 2017-18 who opted into this system. All other students should refer to the program guide and field statement for the year they entered the program.

Refer to Chapter 2 of the Program Guide for additional important information on the department’s requirements for advancing to candidacy.

The field of political methodology includes training in quantitative and formal methodology, in preparation for applying and developing new methods for the scientific study of politics. Students designating political methodology as a first, second, or third field must complete either the quantitative methods stream or the formal methods stream. Students may not choose Formal Theory and Quantitative Methodology as two of their three fields. The quantitative methods stream includes causal inference and the analysis of experiments, model based and Bayesian inference, visualizing data, sampling for survey based research, the analysis of spatial data, and machine learning for prediction and description. The formal methods stream includes individual and social choice theory, game theory and behavioral models.

Required Basic Training:
The following classes are required of all students in the Ph.D. program regardless of field.

- Introduction to Political Methodology - Intensive 3-week camp for new graduate students
- PS 450A - Political Methodology 1 (must be taken for 5 units)
- PS 450B - Political Methodology 2 (must be taken for 5 units)

While only 450A and 450B are required, we encourage all graduate students intending to do empirical work to take the entire sequence (450 A, B, C and D).

Optional Basic Training:
PS 450X:  Programming for Political Scientists (1 unit)- this biweekly course is designed to complement our core methods sequence (450A-D). Students will be introduced to programming concepts, ideas, and tools that will assist them in completing homework faster and help them to produce better, clearer, and more easily replicated code. This class is recommended, though not required and will be particularly useful for students without a strong programming background.

Exemption from Required Methods Classes
Students who believe they have a strong understanding of the content of 450A, 450B or 356A may take a placement exam. Students should speak to the field convener if they are interested in pursuing this option. It is extremely rare that any student will enter graduate school with sufficient training to opt out of our sequence.
Quantitative Methodology Stream

Pre-candidacy Requirements for 1st Field Quantitative Methodology Students

In order to be eligible to advance to candidacy with Quantitative Methodology as a first field, students must:

1. Complete 450A, B, C, D with grades of A- or better. 450A, 450B, and 450C must be taken for 5 units each. 450D must be taken for at least 3 units.

2. Complete one advanced class for at least 3 units with a grade of A- or better. See page 3 of this document for a list of preapproved advanced class options. Students must receive written approval from the field convener to count a class not on this list as their advanced class requirement.

3. Complete a polished field paper. See the Program Guide for additional details on the field paper requirement.

4. Pass a comprehensive exam in spring of their second year, prior to advancing to candidacy. The qualifying exam will cover the material from the basic training and the core methodology courses (450A-D) so the exam can be taken before the completion of the additional advanced course.

Pre-candidacy Requirements for 2nd Field Quantitative Methodology Students

In order to be eligible to advance to candidacy with Quantitative Methodology as a second field, students must complete 450A, B, C, D with grades of A- or better. 450A, 450B, and 450C must be taken for 5 units each. 450D must be taken for at least 3 units.

Students who select Quantitative Methodology as a second field do not take a comprehensive exam in Quantitative Methods.

Pre-candidacy Requirements for 3rd Field Quantitative Methodology Students

In order to be eligible to advance to candidacy with Quantitative Methodology as a third field, students must complete 450C and 450D with grades of B or better in addition to the basic training (450A and B) required of all students in the program. 450C must be taken for 5 units. 450D must be taken for at least 3 units.

Required Minimum Grades

Should a student not receive the required minimum grade in a class taken for their first, second or third field, they may be required to revise and resubmit work associated with the course, retake the course, or take a different course to fulfill the requirement. They may also be advised to switch fields. The appropriate option will be decided by the faculty and communicated to the student by the field convener. All required pre-candidacy course requirements should be completed by the end of the second year in the program so that the student is eligible to advance to candidacy on time. Refer to the program guide for additional information on advancement to candidacy.
Advanced Class Options - Quantitative Methodology

Classes that qualify as the advanced class include, but are not limited to:

**Political Science**
- 452 Text as Data (not offered 2019-20)
- 460A Political Economy I - Hall, Gentzkow (Econ) prereqs: 450A, 450B, 356A
- 460B Political Economy II- Fearon, Gabriel Carroll (Econ) prereqs: 356A
- 357 Sampling and Surveys (not offered 2019-20)
- 358 Data Driven Politics (not offered 2019-20)
- 451 Design and Analysis of Experiments (not offered 2019-20)

**Communication**
- 382 Research in Computational Social Science

**Statistics**
- 200 Introduction to Statistical Inference
- 203 Introduction to Regression Models and Analysis of Variance
- 211 Meta-research: Appraising Research Findings, Bias, and Meta-analysis
- 217 Introduction to Stochastic Processes
- 229 Machine Learning (also listed as CS 229)
- 261 Intermediate Biostatistics: Analysis of Discrete Data
- 262 Regression, Prediction and Survival Analysis
- 270 A Course in Bayesian Statistics
- 290 Paradigms for Computing with Data
- 300A: Theory of Statistics I
- 305A Introduction to Statistical Modeling
- 305B or 305C Methods for Applied Statistics
- 310 Theory of Probability
- 315 Modern Applied Statistics
- 324 Multivariate Analysis
- 362 Monte Carlo Sampling
- 363 Design of Experiments

**Economics**
- Econometrics classes such as Econ 270, Econ 271 or Econ 272
- 292 Quantitative Methods for Empirical Research
- 293 Machine Learning and Causal Inference

**Computer Science**
- 224W Social and Information Network Analysis
- 246 Mining Massive Data Sets

**Economic Analysis and Policy**
- MGTECON 640 Quantitative Methods for Empirical Research
- MGTECON 603 Econometric Methods I
- MGTECON 605 Econometric Methods III
Formal Methodology Stream

Pre-candidacy Requirements for 1st Field Formal Methodology Students:

In order to be eligible to advance to candidacy with Formal Methods as a first field, students must:

1. Complete 356A and 356B for five units each with grades of A- or higher. Should either class not be offered in a given year, students should speak to the field convener about other class options.

2. Complete two additional advanced courses for at least 3 units each with grades of A- or better. See below for a list of preapproved advanced class options. Students must receive written approval from the field convener to count a class not on this list as their advanced class requirement.

3. Complete a polished field paper. See the Program Guide for additional details on the field paper.

4. Pass a comprehensive exam in spring of their second year, prior to advancing to candidacy.

Pre-candidacy Requirements for 2nd field Formal Methodology Students:

In order to be eligible to advance to candidacy with Formal Methods as a second field, students must:

1. Complete 356A and 356B for five units each with grades of A- or higher. Should either class not be offered in a given year, students should speak to the field convener about other class options.

2. Complete one additional advanced course for at least 3 units with a grade of A- or better. See below for a list of preapproved advanced class options. Students must receive written approval from the field convener to count a class not on this list as their advanced class requirement.

3. Students who select Formal Methodology as a second field do not take a comprehensive exam in Formal Methodology.

Pre-candidacy Requirements for 3rd Field Formal Methodology Students

In order to be eligible to advance to candidacy with Formal Methods as a third field, students must complete PS 356A and 356B or two formal theory courses approved by the field convenor. Classes taken to fulfill the 3rd field requirement must be completed with grades of B or better and must be taken for at least three units each.

Advanced Class Options- Formal Methods

- Poli Sci 460A (prereqs: 450A, 450B, 356A),
- Poli Sci 460B (pre-req 356A)
- Polecon 680, 681, 682
- Econ 203 or 203N Core economic, game theory and industrial organization
- Econ 220 Political Economy I
- Econ 281 Economics of uncertainty
- Econ 282 Contracts, information and incentives
- Econ 286 Game theory and economic applications