Program Handbook

Doctoral Program
in Planning and Public Policy

of the
Rutgers School of Graduate Studies

Administered by
The Edward J. Bloustein School
of Planning and Public Policy
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1 Introduction to the Program

Welcome to the Ph.D. program in Planning and Public Policy at Rutgers University. The doctoral degree, offered through the Rutgers School of Graduate Studies, is an advanced scholarly degree appropriate for students seeking a career in university teaching and research, planning and policy research and development in the public sector, and leadership positions in the private or non-profit sectors. Nearly 200 students have received a Ph.D. since the doctoral program was established in the 1960s. Graduates have obtained senior positions in universities, research centers, governments, non-profit organizations, and the private sector. A list of program graduates, their dissertation titles, and their current employment is available on the doctoral program website.

Diverse disciplines—reflected in the backgrounds of incoming students, in the positions filled by graduates, and in the academic and professional pursuits of the faculty—exemplify the flexibility of the doctoral program. This intentional diversity is central to the key goal of our program: to prepare students to pursue a variety of approaches to exploring critical questions in planning and public policy and to shape innovative responses to those questions. The program enables its graduates to respond competently to the social, economic, and political problems and opportunities of our time, to anticipate new and emerging challenges, and to teach others to do the same.

This Handbook presents an overview of Ph.D. program requirements and outlines the process you will follow to complete the degree. The doctoral degree process involves six key components:

1. Credit requirements
2. Required courses
3. Student advising and mentoring
4. Qualifying examinations
5. Forming a dissertation committee and preparing a dissertation proposal
6. Writing and defending your doctoral dissertation

We summarize these elements in Table 1 and follow with a description of key aspects of the process. A suggested Program Navigation Guide for scheduling critical steps in the program is available on the doctoral program website.

For more information, to answer your questions, and to facilitate your progress through the degree, you should maintain regular and frequent contact with the various individuals who are here to help you. These include your faculty advisor, the doctoral program Director, the doctoral faculty, and the staff in the Bloustein School's Office of Student Services. When in doubt about any aspect of the program, seek out any of these individuals for information and guidance.

1. **Credit Requirements**

(a) You will take 72 credits (minimum) of courses:

i. Up to 24 credits of previous graduate work, coordinated with the program director before beginning the program or in the first months.

ii. Minimum 24 credits of EJBS coursework, including required courses and electives.

iii. Minimum 24 research credits (while writing dissertation)

2. Required Courses

(a) Theory:

i. 762:624 Planning, Public Policy, and Social Theory (year 1)

(b) Methods:

i. 833:628 Advanced Qualitative Methods (year 1)

ii. 970:630 Discrete Choice Methods (year 1)

iii. One additional advanced methods course (any time; needn't be at EJBS)

(c) Research Workshop:

i. 762:626 Advanced Scholarly Research (year 3, typically)

3. **Student Advising and Monitoring**

(a) The program director assigns each incoming student an advisor. After the first semester, students may choose to change advisors at any time in order to find a better fit for the dissertation.

(b) First- and second-year students submit a "Program of Study" form in the Fall semester and meet with faculty to develop a strategy for the years to come.

(c) Near the end of each Academic Year, students must also submit an "Individual Development Plan" to the School of Graduate Studies. The student's advisor and the program director will review and, subject to any changes required, approve the plan.

4. **Qualifying Exams**

(a) Doctoral students must complete five comprehensive exams to qualify for candidacy in the Ph.D. program. All exams include a written and oral component. These exams are:

i. Social theory exam

ii. Methods exams

A. Quantitative methods examination (stand-alone exam)

B. Qualitative methods examination (taken as part of Advanced Qualitative Methods)

iii. First substantive field exam ("major field" exam taken with advisor)

iv. Second substantive field exam ("minor field" exam taken with another faculty member)

(b) Timing

i. Qualitative methods will be tested as part of the qualitative methods course.

ii. The quantitative methods exam can be scheduled any time after students have taken the quantitative methods course. In practice, this is typically at the beginning of the first summer (between years 1 and 2).

iii. The remaining three exams (theory, first, and second field) can only be taken when:

A. A student has completed 48 credits, including transfer credits. Typically this is done in the first two years of attending full-time, and before students take Advanced Scholarly Research.

B. A student has maintained a cumulative Grade Point Average (GPA) of 3.5.

C. A student has no outstanding incomplete grades (IN on the transcript).

(c) Oral examinations are conducted jointly for social theory, first, and second field exams. This means students should aim to finish the written portion of these exams in the same semester.

(d) Once all five exams are completed, students should seek signatures for the Degree Candidacy Form (DCF), which is placed on file with the School of Graduate Studies.

5. **Dissertation Committee and Dissertation Proposal**

(a) Each student selects a dissertation committee chair from members of the Bloustein School graduate faculty (a full list is available on the doctoral program website). The student, in collaboration with the advisor, forms a dissertation committee of four faculty members who agree to participate, consisting of:

i. The committee chair

ii. Two additional members of the Bloustein School graduate faculty

iii. One member from outside the Bloustein School

(b) Within three months of completing Advanced Scholarly Research, and with the approval of the dissertation committee, the student presents a dissertation proposal at an open public meeting, followed by an oral defense of the proposal before his or her dissertation committee.

(c) All doctoral students and faculty are invited and expected to attend the public portion of proposal defenses scheduled throughout the academic year.

6. Researching, Writing, and Defending the Dissertation

(a) The doctoral dissertation makes an original contribution to planning and public policy through the rigorous analytical examination of theory and evidence supporting a significant argument or testing a relevant hypothesis.

(b) With the approval of the doctoral committee, the student presents the results of his, her, or their dissertation research at an open public meeting, followed by an oral defense of the dissertation before the committee.

(c) All doctoral students and faculty are invited and expected to attend the public portion of dissertation defenses scheduled throughout the academic year.

(d) After the successful defense of the dissertation, the committee signs the final-exam portion of the Degree Candidacy Form, which is then forwarded to the Rutgers School of Graduate Studies as certification of completion of the requirements for the Ph.D. degree.

2 Admission and Financial Aid

2.1 Admission

Admission to the Ph.D. program requires a formal application with supporting documents, references, a full resume, and evidence of research ability. In most cases, only applicants who have completed a Master's degree or equivalent are considered for admission. In rare instances, exceptional students may be considered after they receive their Bachelor's degree or, for students enrolled in Bloustein School Masters programs, after completion of twelve graduate credits. Information on the application process is available on the Rutgers School of Graduate Studies Website.

The number of students admitted to doctoral study depends on (1) the number of applicants who display a high level of performance; and (2) the faculty's capacity to provide high-quality supervision in the students' areas of interest. Normally, 3-6 doctoral students enter the program each year, selected from about 80 to 100 applicants. Applications are carefully reviewed by the Ph.D. program director and faculty who best match an applicant's research interests. Students must submit their application by no later than January 15th. Applicants are notified of the admission decision in mid-March or early April.

2.2 Financial Aid

Financial support for doctoral students is available through fellowships, teaching assistantships, and research assistantships. Many doctoral students also obtain funding through appointment as adjunct instructors, in hourly work at research centers or on faculty research projects, and from other sources. Students should exercise initiative in contacting center directors and/or individual faculty members regarding opportunities for hourly work on research related to their interests. Students interested in applying for external fellowships and other forms of research support (e.g., Fulbright, NSF, HUD, NIH, etc.) should contact the University's GradFund program: The Resource Center for Graduate Student External Support.

Entering students wishing to be considered for financial aid should indicate this by checking the appropriate box on their application for admission; no separate application form is required. Since the number of students seeking financial support always exceeds available resources, students should seek all appropriate sources of funding that might be available to them. For entering students who receive multi-year funding offers, continuation funding beyond the first year requires evidence of satisfactory progress through the program.

Continuing students can apply for funding each year by completing the Financial Scholarship, Fellowship, and Assistantship Application available from the Bloustein School's Office of Student Services.

3 Doctoral Program Learning Goals

This program prepares students for careers in university teaching and research, and in advanced planning and public policy research in the private, public, and non-profit sectors.

These learning goals track the doctoral student's progress through the program; they are considered satisfied when the specified assessment mechanisms have been successfully completed.

3.1 Theoretical Understanding

Students will develop and demonstrate a mastery of the theoretical frameworks underlying the disciplines of planning and public policy through coursework and a comprehensive written and oral examination.

Assessment is based upon:

1. A grade of B or higher (or waiver of participation) in Planning, Public Policy and Social Theory (16:970:624), and

2. The successful completion of the Theory Qualifying Examination.

3.2 Analytical Thinking

Students will develop and demonstrate advanced skills in social science qualitative and quantitative methods through coursework and a comprehensive written and oral examination.

Assessment is based upon:

1. A grade of B or higher (or waiver of participation) in Advanced Qualitative Methods (34:833:628), Discrete Choice Methods (34:970:630), and a third methods elective approved by the PhD program director, and
2. The successful completion of the Methods Qualifying Examination.

3.3 Specialization in a Subjects Fields of Inquiry

Students will develop and demonstrate advanced knowledge in two subject fields of study related to planning and public policy through coursework, independent study, and a comprehensive written and oral examination. Assessment is based upon:

1. A grade of B or higher (or waiver of participation) in 33 credits of general elective coursework and/or independent study, and
2. The successful completion of each of two field (subject) examinations.

3.4 Inquiry, Analysis and Communication

Students will demonstrate the ability to perform scholarly research and writing through the thesis component of the doctoral program. Assessment is based upon:

1. A grade of "Satisfactory" (or waiver of participation) in Advanced Scholarly Research (16:970:626) and grade of "Satisfactory" for 24 research credits, and
2. The successful completion, public defense, and acceptance by the Graduate School-New Brunswick of a dissertation.

3.5 Teaching and Professional Development

Students will develop and demonstrate teaching and professional skills in venues appropriate to the subject matter of their individual doctoral program of study.

Assessment is based on the accumulation, over the student's program of study, of a portfolio of materials. Among these are, for example:

1. Any instructor teaching shall be assessed by the PhD program director's review of teaching evaluations, which shall be measured as "Exceeds Expectations," "Meets Expectations," or "Does Not Meet Expectations," for each instance in which the doctoral student/candidate served as an instructor;

2. Any service as a Teaching Assistant shall be assessed by the instructor/professor for whom the student served and shall be measured as "Exceeds Expectations," "Meets Expectations," or "Does Not Meet Expectations" for each instance in which the doctoral student/candidate served as a Teaching Assistant;

3. Assessment of presentation of posters and/or papers is satisfied by the acceptance of and presentation at a competitive conference of a poster and/or paper; it shall be the student's responsibility to present the Bloustein Graduate Program Coordinator with evidence of such acceptance and presentation;

4. Assessment of other conference participation and service is satisfied by participation as a discussant or panel chair at a competitive academic conference, as well as Bloustein-sponsored conferences including, but not limited to, the annual Krueckeberg Doctoral Conference in Urban Studies, Urban Planning and Public Policy; it shall be the student's responsibility to present the Bloustein Graduate Program Coordinator with evidence of such acceptance and presentation;

5. The Doctoral Program Director may approve such other Teaching and Professional Development portfolio items to satisfy the assessment of this learning goal as may be reasonable in the context of the subject matter of a doctoral student's individual program of study.

4 Course Requirements, Transfer Credits, and Residency

4.1 Credit Requirements

Students entering the program with a Master's degree must complete a minimum of 48 credits of coursework and an additional 24 research credits, yielding the minimum requirement of 72 credits for the doctoral degree. Up to 24 of the 48 coursework credits may be transferred in from previous graduate-level courses, subject to approval by the doctoral program Director (see "Transfer Credits" below).

4.2 Required Courses

Students in the doctoral program are required to take or, in rare cases, waive via agreement with the program director, the following five classes:

1. 16:762:624 Planning, Public Policy, and Social Theory (typically year 1)

2. 34:833:628 Advanced Qualitative Methods (typically year 1)

3. 34:970:630 Discrete Choice Methods (typically year 1)

   (a) Prerequisite for Discrete Choice Methods is lower-order statistical knowledge and a working knowledge of multiple linear regression gained from 970:515/833:521 Basic Quantitative Methods or equivalent introductory statistics class.

4. One additional methods course related to the dissertation work, subject to the approval of the doctoral program director.

5. 16:762:626 Advanced Scholarly Research (typically year 3)

4.3 Objectives for Methods Courses

Every doctoral student should have a core competency in both quantitative and qualitative methods. Every doctoral student should have advanced competency in a specialized research method or research design appropriate to the student's dissertation research.

4.4 Advanced Competency Requirements

Students must take an advanced qualitative or quantitative methods course, or an advanced research design course. This course may be selected from Bloustein course offerings or conducted with a faculty member as an independent (directed) study providing advanced competency. Alternatively, students may take an appropriate advanced methods or research design course offered elsewhere at Rutgers or at another institution.

4.5 Recommended Methods Courses

Students should consult with their academic advisor and the program director regarding the additional (third) methods course requirement. Selection of a methods course that meets the advanced competency requirement must be approved by the student's academic advisor and the doctoral program Director. All students should have the Methods Course Approval form signed by their supervisor and their doctoral advisor, and then deliver this to student services. This course can be taken at Rutgers or another partner institution. Some recommended courses at the Blosutein School include:

1. Survey Research (34:833:635)

2. Cost-Benefit Analysis (34:833:632)

3. Program Evaluation (34:970:594)

4. Introduction to GIS (34:970:591)

5. Topics in GIS (34:970:592)

4.6 Foreign Languages

There is no foreign language requirement. The student's academic advisor or dissertation committee may request foreign language competency for some dissertations.

4.7 Diagnostic Methods Exam

Entering doctoral students in their first semester who have completed prior graduate-level methods courses may be able to test out of one or both of the required core methods courses (628 and/or 630). Students who believe they have already mastered the material covered in the required core methods courses may, in consultation with their academic advisor, demonstrate their competency in qualitative and/or quantitative methods by passing a diagnostic exam. Passing the qualitative and/or quantitative portion of the diagnostic exam qualifies the student as having met the corresponding core methods course requirement(s).

The decision to take the diagnostic methods exam is entirely up to each student, in consultation with his or her academic advisor and the doctoral program Director, and does not reflect in any way on the student's competence or standing in the program. Students considering whether to take the diagnostic exam should consult the course syllabi for the core methods courses to familiarize themselves with the material covered in those courses and in the corresponding diagnostic exam. Students opting to take the diagnostic methods exam should notify the doctoral program Director at least two weeks before the start of the Fall semester of their first year. Testing out of a required methods course or courses does not confer course credits, which must be made up through other (elective) coursework.

4.8 Elective Courses

The choice and sequence of remaining coursework for each student is guided by the student's academic advisor, the doctoral program Director, and the Program of Study (PoS) committee. As a general rule, doctoral students should not take introductory-level graduate courses offered in the Master's programs in Planning and Public Policy (indicated by course numbers 500-530), except with permission from their faculty advisor.

4.9 Transfer Credits

Graduate courses completed at other institutions may be accepted for credit toward the doctoral degree, subject to conditions outlined by the Rutgers School of Graduate Studies and with the approval of the doctoral program Director. Transfer credits usually apply to courses with a substantive focus that is relevant to the student's doctoral studies, and do not normally include studio courses, independent or directed studies, or Master's thesis research. Up to 24 credits may be transferred in from prior graduate coursework, but not exceeding 40

percent of the total credits applied toward the prior graduate degree. All transfer credits must be for courses with at least a grade of "B" or equivalent. The procedure for transfer of credits involves completing a form (available from the Office of Student Services) and obtaining the approval of the doctoral program director.

4.10 Research Credits

Doctoral students are required to complete 24 research credits, usually beginning in the semester during which they prepare for and/or take their qualifying exams. Registration for research credits normally allows the student to prepare for qualifying exams and conduct dissertation research. Credits for Directed Study count toward coursework and may not be used for research credits. From 1 to 12 research credits may be taken in any one semester. The number of research credits allowed in a semester (between 1 and 12) should be commensurate with the scope and quality of the research, and requires the approval of a faculty member supervising the research. The student and supervising faculty member should discuss the topic, scope of work, expected product(s), and schedule at the beginning of the semester and this discussion should guide the research and grading. Research credits are graded either "S" (satisfactory) or "U" (unsatisfactory).

Once students have completed 72 credits of coursework and research, they must continue to register for at least one research credit each semester to maintain enrollment until they have completed all requirements for the doctoral degree (i.e., completed and defended their dissertation).

4.11 Full- and Part-Time Residency

The doctoral program does not require full-time residency. However, students must register for at least six credits of coursework (normally equivalent to two classes) in each semester prior to taking qualifying examinations.

5 Program Participation

Formal coursework is just one of many avenues for scholarly learning and intellectual interaction in the Bloustein School. All doctoral students are expected to attend and actively participate in the full range of seminars, colloquia, and other presentations that enrich our academic community. Some of the regularly scheduled activities in which doctoral students are expected to participate include (but are not limited to):

1. Ph.D. Lunchtime Colloquium, weekly at noon about every two to three weeks during Fall and Spring semesters – informal discussion of professional skills and current student and faculty research

2. Dissertation Proposal Presentations – the public lecture portion of the proposal defense

3. Dissertation Lectures – the public lecture portion of the dissertation defense

6 Evaluation of Doctoral Students

Student progress toward the degree is evaluated by the doctoral program faculty at the end of each semester. Failure to maintain a semester grade point average of 3.5 or a cumulative grade point average of 3.5 is cause for a student to be considered for dismissal from the program. No more than 9 credits with grades of C or C+ may be counted toward fulfillment of the requirements for the doctoral degree. Students must obtain a grade of B or better in core courses (Discrete Choice Methods, Advanced Qualitative Methods, and Planning, Public Policy, and Social Theory or equivalents). A grade of B or better must be achieved before taking the equivalent Methods or Theory examinations. Students are allowed to repeat these core courses once.

In the event of insufficient evidence of progress toward the degree, a conference will be called which will include four persons: the doctoral program Director, a member of the doctoral program faculty (usually the student's academic advisor), the coordinator of student and academic services, and the student. The conference provides a frank discussion of the student's strengths and weaknesses and conveys an assessment by the faculty and staff as to the student's prospects for completing the doctoral program in a timely manner. The doctoral program Director will provide the student with a written statement of the assessment. If a student wishes to continue in the program after being advised of his or her limitations, the doctoral program Director may prescribe courses or other remedial action for the student to take in the following semester or semesters. Failure to demonstrate an ability to meet the criteria for continuation within the specified time period may be reason for dismissal from the program.

Normal progress toward the degree implies timely completion of coursework, qualifying exams, and dissertation research. Under the regulations of the Rutgers School of Graduate Studies, students registered in the program beyond a period of seven years must apply annually to the Rutgers School of Graduate Studies for permission to continue to enroll. The application must specify the reasons for continued enrollment and must establish clear deadlines for completion of the degree. The Application for Extension of Time form is available from the Rutgers School of Graduate Studies website and via the Individual Development Plan process conducted yearly at the end of the Academic Year.

7 Incomplete Grades

A grade of incomplete (IN) in a course is given only when circumstances beyond the student's control merit granting extra time for completing course require-

ments. Students must apply for an IN grade in writing using the form obtained from the Office of Student Services. The application must include a statement of the circumstances meriting the IN grade and a contract that defines the nature of the incomplete work and the date by which it is due. The contract must be signed and dated by the student, the faculty member, and the doctoral program Director before an IN grade can be assigned.

Should a student require a further extension of the contract, he or she must obtain permission for the extension from the course instructor and the doctoral program Director. Only one extension may be granted to any contract. After one year, the IN grade automatically converts to a permanent incomplete (PIN). When this happens, a student will not receive another grade or credit for the course in question. A student may maintain two IN grades for no more than a single semester. If at least one is not converted to a final grade, the student may be prohibited from registering for the following semester. Students who receive more than one IN within the first 12 credits of coursework in the program will receive a written warning and must meet with the program director and academic advisor to discuss the problem.

8 Student Advising

A faculty advisor is assigned to each incoming doctoral student. After the first semester, each student may select his or her own advisor among members of the graduate faculty in the Bloustein School, upon mutual agreement between the student and faculty member (please inform the student services office if you select another advisor). The faculty advisor is not the Chair of the student's doctoral committee but serves to provide guidance and advice until a Chair is selected. The advisor often becomes the Chair, but this is not always the case.

Students are strongly encouraged to seek out faculty outside of formal classes (during office hours or by appointment) to learn about ongoing research, discuss mutual interests, seek mentoring or advice, and discuss any program-related issues that might arise. It is the student's responsibility to make full use of faculty advising through frequent and regular contact with faculty advisors, other program faculty, and the doctoral program Director. The doctoral program Director is available to answer questions, provide guidance, or discuss student progress through the program. While program faculty and the program Director carefully monitor student progress, it is the student's responsibility to take the initiative to maintain regular contact with faculty advisors.

9 Program of Study and Individual Development Plans

The Program of Study (PoS) process is required for all first- and second-year students in the Ph.D. program who have not yet completed their qualifying exams. The process is designed to help you select courses appropriate for your

field of study; identify relevant faculty and other resources both within and outside the Bloustein School; choose an academic advisor; develop a direction for dissertation research; and prepare for qualifying exams.

The Program of Study process involves two parts: (1) compiling information on your coursework, program goals, and research interests by completing the Program of Study form (see doctoral program website); and (2) meeting with the Program of Study committee in the Fall semester of the first and second year to jointly review and discuss your program. The PoS committee includes the Ph.D. Program Director and program faculty with interests similar to your own. Students are encouraged to request specific faculty to participate in their PoS meetings and can indicate this on their PoS form. Sometimes it is difficult to arrange meetings at which all faculty can be present, and in these cases, we will find suitable alternatives.

The School of Graduate Studies requires students to complete an online Individual Development Plans (IDPs) near the end of each Academic Year.This process is focused not only on your current program of study but will also help you achieve longer-term goals, including post-graduation.

10 Responsible Conduct of Research

All students are required to be certified that they understand the ethical issues involved with conducting research, and in particular, research involving human subjects. Rutgers works with the CITI program to provide online courses and required certifications. During your first year of studies, you must complete two courses and complete the certification quiz.

Please email your certificates to the Graduate Administrator once you have successfully completed the courses.

These are the two courses:

Human Research: Social/Behavioral/Epidemiological Research Investigators This course covers the basics of human-subjects research. On successful completion, you will receive a certification which is needed for any application to the Institutional Research Board (IRB) for human-subjects research.

Social and Behavioral Responsible Conduct of Research This course covers a broad spectrum of topics concerning the responsible conduct of research. This is required if you apply for funding from various agencies.

11 Selecting a Dissertation Chair

Before presenting for the qualifying examinations, a student must select a member of the doctoral program faculty who agrees to chair and supervise the student's doctoral dissertation. The dissertation chair does not necessarily have

to be the student's former academic advisor. Except in very exceptional cases, the dissertation chair is a tenured member of the doctoral faculty, which includes members of the Bloustein School and members of other academic units at Rutgers. A full list is available on the doctoral program website.

In selecting a dissertation chair, the student should engage in discussion with potential faculty members to identify mutual interests and the likelihood of establishing a compatible working relationship. Since the dissertation chair often becomes the student's principal advocate within the program and an important reference for future endeavors, students should be diligent in their selection. Following inquiry and discussion, the student must have the faculty member sign the Selection of Committee Chair form; this is then taken to the Program Director for signature and then to the Office of Student Services.

12 Qualifying Examinations

12.1 Content

Qualifying examinations certify that the student is "qualified" to transition from coursework to independent dissertation research. Passing the qualifying examinations constitutes formal advancement to candidacy for the Ph.D. degree. Basic information on Qualifying Exams is summarized here. Detailed information is provided in the document titled Doctoral Qualifying Exams: Components, Timing, and Preparation in the Appendix.

Doctoral students in Planning and Public Policy are required to pass written and oral qualifying examinations in the following five areas. All students must take and pass all exams, regardless of past experience or other circumstances. The exams are:

1. Social Theory: of and in planning and public policy.

2. Qualitative Methods: core competency in qualitative analysis and research design.

3. Quantitative Methods: core competency in quantitative analysis and research design.

4. First Field: a topical specialization within planning and/or public policy, requiring broad familiarity with a substantive literature that is central to the student's anticipated dissertation research.

5. Second Field: a second topical or substantive specialization closely related to the student's anticipated dissertation research and defined so that the subject matter does not overlap with the First Field; or a related field other than planning and public policy (e.g., civil engineering, computer science, economics, geography, political science, sociology, or another field) that the student can show is relevant to his or her dissertation research.

First Field and Second Field exams assess the student's comprehension and mastery of a substantive literature relevant to the topical specialization covered by each exam. Each field exam should include relevant theory to the subject matter being examined. Selection of topical specializations comprising the First and Second Fields is the responsibility of the student together with his or her selected examiners, in consultation with and approved by the student's academic advisor and the doctoral program director.

Except in very unusual circumstances, preparation for the First and Second Field exams requires the student to prepare a comprehensive reading list of the extant literature relevant to the selected topical areas. This reading list encompasses the primary literature covered in the examination. Working closely with their First and Second Field examiners, students should begin the process of delineating the substantive focus and preparing reading lists for these exams at least one semester (and preferably more) before the intended exam date.

12.2 Scheduling Written Qualifying Exams

Students are encouraged to take qualifying exams as soon as they are eligible to do so. Students must achieve a grade of B or better in the required methods and theory courses prior to taking the corresponding examination. All exams should be taken not later than four years after the student first registered in the Rutgers School of Graduate Studies and not later than two semesters before taking the final dissertation examination.

The required (third) advanced methods course may be taken either before or after the student passes the methods qualifying exams, as guided by the student's dissertation research direction and interests.

Students taking the Social Theory and Field Examinations must have (a) completed all required coursework other than Advanced Scholarly Research, (b) maintained a grade point average of 3.5, and (c) have no outstanding incomplete grades. Rare exceptions can be made by the program director.

Students begin preparations for the Theory and Field examinations at the end of their first year of studies with a goal to complete these by their 4th semester, prior to taking Advanced Scholarly Research in their 5th semester (in the Fall). Part-time students may do this in their 6th semester and take Advanced Scholarly Research in their 7th semester.

Social Theory Exam Timing Students should coordinate with the social theory examiner to pick a date for the social theory exam. Most full-time students take the social theory exam in their fourth semester or in the summer following this. Historically, students have formed study groups to prepare for the social theory exam far in advance of the exam itself.

Qualitative Methods Exam Timing Students enrolled in the qualitative methods course should consult with the instructor to pick a time to take the exam, ideally during the exam period reserved for the course.

Quantitative Methods Exams Timing Students enrolled in the qualitative methods course should consult with the quantitative examiner to pick a time to take the exam, typically in the summer following the course.

Two Field Exams Timing The student must complete written examinations in two fields (subjects) during the second year of studies (for full-time students). The oral examination for social theory and fields is conducted jointly and normally occurs after the written theory examination is completed.

12.3 Oral Exams

Oral exams provide an opportunity for follow-up discussion and/or clarification of questions posed in the written exams and for any other matters chosen by the examiners.

12.3.1 Methods Oral Exams

The oral component of the Methods exam is arranged by the Methods examiner(s) and is scheduled to follow the written Methods exam in a timely manner, usually within a week or two after the written exam.

12.3.2 Theory, First Field, Second Field Oral Exams

A single combined oral exam covering Theory, First Field, and Second Field must be completed after completion of all written components. It is the student's responsibility to arrange a date and time for the combined oral exam that is agreed to by all three examiners. This process should be initiated as early as possible, certainly as soon as the dates of the written exams have been decided, to accommodate the work schedules of faculty who are often asked to schedule multiple exams in the same semester.

12.4 Exam Adjudication

After passing all qualifying exams, the student obtains the signatures of his or her examiners on the exam portion of the Degree Candidacy Form (DCF) obtained from the Rutgers School of Graduate Studies, indicating that the student has advanced to candidacy for the Ph.D. degree. The signed form is kept on file at the Rutgers School of Graduate Studies until the student successfully defends his or her dissertation and completes all requirements for the degree.

Should the student fail any part of the examination, the examination committee in conjunction with the doctoral program Director will advise the student to pursue one or more of the following options: (1) retake part(s) or all of the exam(s) at a specified time; (2) take additional courses or submit additional written and/or oral work; (3) withdraw from the doctoral program. Any additional requirements under options (1) or (2) will be specified by the examiner(s) in writing and must include a timeline by which work must be completed to the

satisfaction of the examiner(s). Failure to complete the required work by the specified deadline will be cause for the student's withdrawal from the doctoral program.

Any student who remains registered in excess of 10 years may be required to retake the qualifying examinations prior to their final dissertation defense. All students who apply for readmission may also be required to retake the qualifying examinations.

13 Forming a Dissertation Committee

Upon passing the qualifying examinations, the doctoral candidate, in consultation with his or her dissertation chair and the doctoral program Director, forms a dissertation committee comprised of at least four faculty members. It is the student's responsibility to form a dissertation committee by discussing his or her research interests with potential committee members and obtaining their agreement to serve on the committee.

The dissertation committee normally (but not necessarily) includes some or all of the faculty members who served as the student's examining committee for Qualifying Exams. Three of the four committee members are members of the doctoral program faculty in the Bloustein School (see website for a list of program faculty). The fourth "outside" member must hold the PhD degree and may be a member of the Rutgers graduate faculty in a program outside of Bloustein or a faculty member from another university. An individual without an academic appointment (but holding a PhD) may be named as the student's external member with the approval of the doctoral program Director and the Rutgers School of Graduate Studies. In any case, the external member must hold the Ph.D. degree. If the external member is from outside of Rutgers, please submit a copy of their c.v.

Once the dissertation committee is constituted, the student should obtain signatures and submit the Selection of Committee Members form to your Chair and the program director for approval.

14 The Dissertation Proposal

Following successful completion of the qualifying examinations, the student prepares a written dissertation proposal in consultation with his or her dissertation chair and dissertation committee. The dissertation proposal sets out the focus of the student's dissertation research, presents a concise problem statement, reviews the relevant literature, describes the research methods to be employed in data collection and analysis, and provides a timetable for undertaking and completing the research in a productive and timely manner.

Except under extremely unusual circumstances, the defense of the dissertation proposal must be completed within six months of completing Advanced Scholarly Research. It is the student's responsibility to obtain the disserta-

tion committee's approval of the written proposal and to schedule a date and time for a proposal defense. Students should allow sufficient time before the scheduled date of a proposal defense for dissertation committee members to review draft(s) of the proposal and for the student to complete any revisions that might be required by committee members. It is expected that faculty will take no longer than 2-3 weeks to review and comment on drafts of the proposal. At least two weeks before the scheduled defense, the student should notify the Office of Student Services of the date and time of the defense and provide the title and abstract of the proposed dissertation.

The proposal defense proceeds in two parts: (1) an open public lecture presented at the Bloustein School, in which the student describes the substance and method of the proposed research; and (2) an oral defense of the proposal before the student's dissertation committee. Immediately following successful defense of the proposal, the student's dissertation chair, in consultation with the rest of the dissertation committee, provides the student with a written evaluation of the proposal, summarizing the discussion during the oral exam and providing specific recommendations and guidelines for improving the proposed dissertation research. A copy of the written evaluation is sent to the doctoral program Director and the Office of Student Services.

15 The Dissertation

The Ph.D. dissertation makes an original contribution to planning and public policy through the rigorous analytical examination of theory and evidence exploring a significant argument or testing a relevant hypothesis. The dissertation may draw from a broad array of quantitative and/or qualitative research methods, as appropriate to the topic and purpose of the research and reflecting the multidisciplinary nature of the field. Doctoral dissertations presented for defense shall be completed to the same standard of substance and format as would a formal research paper submitted to a leading journal for publication. (A list of titles of dissertations completed in the doctoral program in planning and public policy can be found on the website. All dissertations are available in the Rutgers library and more recent ones on RUCore, Rutgers on-line depository).

16 The Dissertation Defense

Upon completion of a complete written draft of the dissertation, and with the approval of the dissertation committee chair, the manuscript is circulated to the members of the dissertation committee for review. The student should allow sufficient time (normally at least three weeks) before the scheduled date of a dissertation defense for committee members to read, review, and comment on the draft dissertation manuscript. Several revisions of the draft dissertation may be required before committee members agree that the dissertation has attained a standard of excellence necessary for the dissertation to be submitted

for defense. Faculty are expected to review and comment on revisions within three weeks. Unanimous agreement by the dissertation committee is required before the dissertation can be submitted for defense. It is the student's responsibility to obtain the dissertation committee's approval of the final dissertation manuscript and to schedule a date and time for a proposal defense.

The oral defense must be scheduled at least one month prior to the date posted by the Rutgers School of Graduate Studies for filing the completed doctoral dissertation.

For an October degree:

- August 14 Last day to distribute complete dissertation draft to committee
- September 4 Last day for dissertation defense and public lecture
- October 1 Last day for filing final dissertation

For a January degree:

- November 30 Last day to distribute complete dissertation draft to committee
- December 21 Last day for dissertation defense and public lecture
- January 13 Last day for filing final dissertation

For a May degree:

- February 20 Last day to distribute complete dissertation draft to committee
- March 16 Last day for dissertation defense and public lecture
- April 15 Last day for filing final dissertation

The degree checklist is available at the School of Graduate Studies website. This also includes deadline information as the above filing dates will vary from year-to-year.

At least *two weeks* before the scheduled defense, the student should notify the Office of Student Services of the date and time of the defense and provide the title and abstract of the proposed dissertation. Oral defense of the dissertation consists of two parts. These are:

1. An open public lecture presented at the Bloustein School, in which the student reports the dissertation's objectives, methods, findings, and implications.
2. An oral defense of the dissertation before the dissertation committee.

All doctoral students in residence are expected to attend the public lecture component of dissertation defenses that are scheduled from time to time

throughout the academic year. Attendance at the dissertation lecture is an opportunity to learn how it is done, to support fellow students in the program, and to participate in the intellectual life of the academic community.

Following the oral defense, the dissertation committee may either approve the dissertation or require additional work to be completed before the final document can be approved. After passing the dissertation defense, the student obtains the signatures of his or her doctoral committee on the dissertation portion of the Degree Candidacy Form (DCF) obtained from the Rutgers School of Graduate Studies, indicating that the student has completed all requirements for the degree.

A final copy of the successfully defended dissertation must be submitted to the Rutgers School of Graduate Studies, in the specified format and manner (for detailed information, see the Electronic Thesis and Dissertation Style Guide, available from the Rutgers School of Graduate Studies). Submission of the dissertation completes the doctoral process.

17 The Susan Fainstein Award

The Susan Fainstein Award, named after the distinguished scholar and long-term director of the doctoral program, is presented by the Doctoral Program in Planning and Public Policy to students completing doctoral dissertations that exhibit "outstanding scholarship and excellence in doctoral research." The procedure for selecting candidates for the Fainstein Award is as follows:

1. On March 15th of each year, a list of potential eligible doctoral students will be distributed to the doctoral faculty.

2. The doctoral faculty will be invited to nominate candidates for the Award by April 1st of each year. The nomination shall include:

   (a) A letter of nomination, usually written by the nominee's dissertation committee chair.

   (b) Evidence of external indication of superior quality of the dissertation, such as portions of the work accepted for journal publication, etc.

   (c) An electronic copy of the dissertation.

3. A committee of four doctoral faculty appointed by the doctoral program Director will review the nominations and will recommend, by April 15th, whether an award is appropriate.

4. The committee's decision will be reported at the final Spring semester meeting of the doctoral faculty (usually held in late April or early May) and at the Bloustein School's Spring commencement.

18 Program Evaluation and Assessment

The Rutgers School of Graduate Studies assesses and evaluates all doctoral programs on a regular basis. This is done to ensure that each program adheres to the high standards required of the Rutgers School of Graduate Studies. As such, we are required to report to the Rutgers School of Graduate Studies various data on your scholarly progress. These metrics encompass detail on awards, fellowships, grants, conference or workshop presentations, publications, and other scholarly activities each doctoral student and candidate achieves during that academic year. Each spring semester, the doctoral program director or the Bloustein School assessment coordinator will send the questionnaire, completion of which is mandatory, in late April to all students and candidates at their email account on file.

A Advanced Methods and Research Design Courses at Rutgers and Princeton

A.1 Qualitative Methods Courses

A.1.1 Rutgers Courses

Bloustein School of Planning and Public Policy
34:970:750 Case Study Methods. Concepts and methods of case study analysis, illustrated by exemplary methods in the classic and contemporary literature.

Anthropology
16:070:506 Research Design and Methods in Social/Cultural Anthropology. Survey and critical evaluation of methods in current anthropology, using original research as data.

16:070:526 Urban Ethnography. Classic and contemporary urban ethnographies of the US and elsewhere. Urban methods, construction of "the field," and epistemological concerns. Modernity and global cities. Space, race, and class. Representations of urbanism.

16:070:527 The Ethnology of Inequality: Race, Class, and Ethnicity. Survey of anthropological literature on the relationships among race, class, and ethnicity. Ethnographic methods and the comparative approach to the study of hegemony, resistance, and conflict among groups defined as "racial" or "ethnic."

16:070:532 Problems in Ethnography. For graduate students wishing to pursue advanced work in areas not provided for in formal courses. Conferences, reading, and empirical work arranged in consultation with the professor.

16:070:580 Research Methods and Theory in Archaeology. Conceptual bases and assumptions used in the formulation of research designs and the interpretation of research results; examination of fieldwork problems and techniques, with emphasis on the problems of observation, use of documentary sources, surveying and excavation, and use of quantitative data.

Communication, Information, and Library Studies
16:194:603 Qualitative Research Methods. Qualitative approaches for examining information processes, including information definition, acquisition, evaluation, and use.

Public Affairs and Administration (Rutgers-Newark)
Qualitative Methods II. The purpose of this course is to give doctoral students a more in-depth understanding of the various ways to gather qualitative data. Differs from Qualitative Methods I in that it will be a seminar where students read intensively about, and examine examples of, individual data gathering techniques. These focused readings are couples with a lab experience in which students implement their protocols. Ethical considerations in analyzing qualitative data are also discussed.

Social Work
16:910:640 Qualitative Research Methods. Examination of the methods of collecting, analyzing, presenting, and applying qualitative data. History and evolution of qualitative research methods; theoretical observations; data-collection methods, including ethnography, participant observation, in-depth interviewing, focus groups, and archival analysis; methods of data analysis; and research applications, including theory development and program design and evaluation.

Sociology
16:920:501, 502 Sociological Research Methods I, II. Logic, design, and implementation of research to test sociological hypotheses. First term: fundamentals of research design, sampling, and measurement. Second term: data collection, data management, and exploratory data analysis, including an introduction to computer techniques. Laboratory exercises required.

16:920:520 Comparative and Historical Methods. Philosophical, theoretical, and methodo-logical issues involved in sociological explanations of social systems over time.

16:920:615 Seminar in Qualitative Research Methods. Discussion and guided practice in the collection and analysis of qualitative data. Major attention on research designs employing participant observations and/or in-depth interviewing. Case studies reviewed; collection and analysis of data from a field research study.

Women and Gender Studies
16:988:603 Feminist Knowledge Production. This course is an introduction to many of the methods used in feminist interdisciplinary research. The course looks at how to formulate a research question, collect data, interpret and analyze evidence, and report research results. This methodological overview raises broader issues about the relationship among theory, methods, and research goals. Do certain research problems impose methodological restrictions? Does reliance on some methods rather than others limit what we can know? The course will be a forum to apply knowledge of methods and methodologies to students' own research and research-activist interests.

Graduate School of Applied and Professional Psychology
18:820:616 Qualitative Research Methods. Provides an overview of the broad range of qualitative research methods that are available, from traditional coding of narrative information into quantitative categories, to pragmatic case studies, to ethnographic methods, to hermeneutic studies. The course provides an opportunity to practice qualitative research skills by designing, conducting, and writing systematic, semistructured narratives.

Graduate School of Education
15:310:536 Methods of Educational Ethnography. This course is an introduction to doing and thinking about educational ethnography. Ethnography is the study of culture and social organization through fieldwork. Students will learn

ethnographic methods by doing them. Prerequisites: Sociology or Anthropology of Education, an introductory course in qualitative methods, or permission of the instructor.

A.1.2 Princeton Courses

Sociology and Population Research
Soc 553 The Nuts and Bolts of Ethnographic Research. Several facts inspire this course: (a) ethnographic methods can play a vital role in the development and testing of sociological theory; (b) they are also increasingly relevant to policy-directed research and evaluation; (c) ethnographers have long connected the world of academia with the general public; (d) top publications and best-sellers in the social sciences typically depend on ethnographic research; and (e) a combination of qualitative and quantitative methods improves the quality of findings and interpretation.

Woodrow Wilson School of Public and International Affairs
520 Historical Methods and Public Policy. The seminar will introduce students to the approach of historians who tackle contemporary policy issues. The historical approach is particularly well suited to particular challenges, such as uncovering long-term patterns in government institutions that are likely to shape policy outcomes or evaluation policies during the implementation process. After completing this seminar, students will have a much stronger understanding of the historical development of many issues that they will deal with professionally and will master a new analytic tool that they will be able to use in their work.

A.2 Quantitative Methods Courses

A.2.1 Rutgers Courses

Bloustein School of Planning and Public Policy

34:970:527 Advanced Multivariate Methods. Multivariate statistical methods used to analyze land use, environmental, public health, and other large data sets.

34:833:530 Research Design and Data Analysis for Public Policy. Scientific method of study, the processes of conceptualization and measurement, and experimental design, or how social programs are structured so they may be effectively studied.

34:970:591 Introduction to Geographic Information Science for Urban Planners. Introduces basic concepts of geographic information science and its computer applications. Pre- or corequisite: 34:970:515 or 516 or equivalent.

34:970:592 Topics in Geographic Information Science. Includes advanced geographic information science (GIS) topics, spatial statistics, and specialized computer applications. Pre- or corequisite: 34:970:591.

34:970:594 Program Evaluation: Process and Impact. Focus on program evaluation as the procedures and techniques used to scientifically document the

implications of professional interventions. Study of conceptual, measurement, and analytic tools including intervention activities and objectives, intervention monitoring, measurement, design of monitoring and social experiments, and impact analysis.

34:833:632 Cost-Benefit Analysis. Introduction to and issues in using cost-benefit analysis. Identify costs and benefits, and understand discounting, dealing with uncertainty, and valuing health and human life.

34:833:635 Survey Research. How to conduct, analyze, and evaluate surveys. Topics covered include problem formation, sample design and selection, questionnaire wording and layout, modes of survey administration, field procedures, data reduction, and data analysis.

34:833:679 Advanced Quantitative Methods. Presents a variety of advanced econometric theories and applies them to estimate the impact of policies and laws. The course's capstone experience is the completion of a "peer review" style research paper on a question of interest to the student.

Computer Science

01:198:424 Modeling and Simulation of Continuous Systems. To concentrate on the formation and derivation of mathematical models of continuous dynamical systems and to analyze their simulation by means of analog and digital computers. Definition of continuous and discrete systems. Differential equations and their role in modeling. Numerical models, integration algorithms, the CSMP language, error propagation. Examples of continuous and discrete dynamic processes in physics, environment, urban studies, genetics, engineering, and industrial dynamics.

Economics

16:220:506 Advanced Economic Statistics. Background in statistical inferential procedures used in economic-data analysis. Probability, random variables and distributions, estimations, testing hypotheses, and sampling distribution of estimators. Prerequisites: background in calculus and linear algebra.

16:220:507 Econometrics I. Focus on measurement of economic parameters. Statistical estimation and inference of regression equation models. Properties of OLS, GLS, JGLS, 2SLS, 3SLS, and Maximum Likelihood Estimators. Introduction to time-series analysis and quantitative-response models. Use of linear algebra and statistical packages. Prerequisites: 16:220:506 or equivalent.

16:220:508 Econometrics II. Time series analysis. Specification, estimation and inference. Continuous and discrete data. Multivariate and univariate methods including (V)ARMA models, cointegration, unit roots, predictive inference, bootstrap methods, and financial econometric methods. Prerequisite: 16:220:507. 16:220:613 Seminar in Applied Econometrics. Applied work in macroeconometrics and micro-econometrics; use of data and standard statistical packages.

Industrial and Systems Engineering
16:540:530 Forecasting and Time Series Analysis. Alternative time-series models for purposes of prediction. Smoothing techniques, probability and regression analysis, and econometric analysis. Prerequisites: Advanced calculus, statistics.

16:540:530 Simulation of Production Systems. Discrete event simulation applied to problems in production, transportation, computing and health care systems. ARENA simulation tool is utilized. Input/output analysis, verification and validation are emphasized. Interval estimates, variance reduction techniques, and statistics. Prerequisites: 14:540:311; 01:640:477 or 01:960:379; 01:960:381, 382 or equivalent; and FORTRAN or C.

Political Science
16:790:595 Advanced Survey Research. Sample design, questionnaire construction, interviewer training and evaluation, analysis of survey data, and preparation of proposals for potential users.

16:790:633 Multivariate Techniques. Focus on multiple regression but also may include categorical regression, factor analysis, causal modeling, and analysis of variance. Heavy emphasis on computer applications.

16:790:634 Game Theory for Political Scientists. Introductory course in game theory for political science graduate students.

Social Work
16:910:638 Advanced Statistical Methods I. Analytic and measurement strategies fundamental to multivariate model testing in policy, administration, and direct practice research. Topics include tabular and loglinear analysis, multiple regression, analysis of covariance, and analysis of variance in its principal forms. Multiple indicators and measurement approaches such as exploratory and confirmatory factor analysis. Prerequisite: 16:910:637.

16:910:639 Advanced Statistical Methods II. Use of multivariate quantitative methods. Employing multiple dependent variables, nonlinear relationships, mediator effects, instrument variables, and multilevel analysis. Prerequisite: 16:910:638.

Sociology
16:920:541-542 Analysis of Sociological Data I, II. Application of classical and modern statistical techniques to the analysis of sociological data. Problems of optimal fitting of technique to level and quality of data emphasized. First term: bivariate techniques, up to and including analysis of variance. Second term: multivariate techniques, multiple regression, and the general linear model. Laboratory exercises required. Prerequisite for 16:920:542; 16:920:541 or permission of the instructor.

16:920:633 Seminar in Social Science Data Analysis. Advanced topics in quantitative reduction and analysis of data generated by research in the various social sciences. Topics chosen from, but not limited to, loglinear analysis,

structural equation models, panel analysis, network analysis, time-series analysis, and continuous-time process models. Initial sessions focus on developing the basics of matrix algebra upon which most of these techniques rely. Prerequisite: 16:920:542 or permission of the instructor.

Statistics
16:960:582 Introduction to Methods and Theory of Probability. Emphasis on methods and problem solving. Topics include probability spaces, basic distributions, random variables, expectations, distribution functions, conditional probability and independence, sampling distributions. Prerequisite: one year of calculus.

16:960:583 Methods of Inference. Theory of point and interval estimation and hypothesis testing. Topics include sufficiency, unbiasedness, and power functions. Emphasis on application of the theory in the development of statistical procedures. Prerequisite: 16:960:582.

16:960:565 Applied Time Series Analysis. Model-based forecasting methods, autoregressive and moving average models, ARIMA, ARMAX, ARCH, state-space models, estimation, forecasting and model validation, missing data, irregularly spaced time series, parametric and nonp0arametric bootstrap methods for time series, multiresolution analysis of spatial and time-series signals, time-varying models and wavelets.

16:960:542 Life Data Analysis. Statistical methodology for survival and reliability data. Topics include life-table techniques,; competing risk analysis; parametric and nonparametric inferences of lifetime distributions; regressions and censored data; Poisson and renewal processes; multistate survival models and goodness0f-fit test. Statistical software used. Prerequisite: one year of calculus, Level V statistics, or permission of the instructor.

16:960:553 Categorical Data Analysis. Two-by-two frequency tables, Fisher's exact test, measures of association, general contingency tables, loglinear models, logistic regression, repeated categorical-response data, maximum likelihood estimation, tables with ordered categories, discriminant analysis. Prerequisite: Level V statistics or permission of the instructor.

16:960:587 Interpretation of Data II. Modern methods of data analysis and advanced statistical computing techniques: smooth regression (including GAM models), nonlinear models, Monte-Carlo simulation methods, the EM algorithm, MCMC methods, spatial statistics, longitudinal data analysis/mixed effects models/GEE, latent variable models, hidden Markov models, Bayesian methods, etc. Prerequisite: 16:960:586 or permission of the instructor.

A.2.2 Princeton Courses

Woodrow Wilson School of Public and International Affairs
508b Econometrics and Public Policy: Basic. Provides a thorough examination of statistical methods employed in public policy analysis, with a particular emphasis on regression methods which are frequently employed in research across the social sciences. This course emphasizes intuitive understanding of the central

concepts and develops in students the ability to choose and employ the appropriate tool for a particular research problem and understand the limitations of the techniques. Prerequisite: 507b.

508c Econometrics and Public Policy: Advanced. Discusses the main tools of econometric analysis and the way in which they are applied to a range of problems in social science. Emphasis is on using techniques and on understanding and critically assessing others' use of them. Topics include regression analysis with a focus on regression as a tool for analyzing non-experimental data, discrete choice, and an introduction to time-series analysis. Applications from macroeconomics, policy evaluation, and economic development. Prerequisite: grounding in topics covered in 507c.

509 Generalized Linear Statistical Models. Focuses primarily on the analysis of survey data using generalized linear statistical models. The course starts with a review of linear models for continuous responses and then proceeds to consider logistic regression models for binary data, log-linear models for count data including rates and contingency tables and hazard models for duration data. Attention is paid to the logical and mathematical foundations of the techniques but the main emphasis is on the applications, including computer usage. Assumes prior exposure to statistics at the level of 507c or higher and familiarity with matrix algebra and calculus. Prerequisite: 507c.

515b Program and Policy Evaluation. This course introduces students to evaluation. It explores ways to develop and implement research-based program improvement strategies and program accountability systems; to judge the effects of policies and programs; and to assess the benefits and costs of policy of program changes. Students study a wide range of evaluation tools; read and discuss evaluation examples and apply this knowledge by designing several different types of evaluation on programs of their choosing. Prerequisite: 507b/c or instructor's permission.

A.3 Theory Courses

Women and Gender Studies

16:988:602 Feminist Methodologies. This course focuses on both the advantages and disadvantages of different philosophical, methodological, theoretical, and disciplinary traditions for contributing to our knowledge of central issues in Women's and Gender Studies. The goal is to provide students with the critical tools to utilize and interrogate existing methodologies and to adapt them to the enterprise of feminist research. What counts as authoritative knowledge? What defines good research and bad research? What is the role of the social in the constitution of knowledge? The aim will be to understand the implications for feminist research of different philosophies of science, including positivism, realism, pragmatism, idealism, postmodernism, and others. We also consider the development of feminist hybrid epistemologies such as strong objectivity, situated knowledge, and a genial realism.

Graduate School of Education
15:255:500 Foundations of Inquiry. Provides a broad conception of disciplined inquiry. Enables students to locate various methods and general issues in research within a broader perspective; epistemology, history, and philosophy of science and social science, logic, introduction to the logic of specific methods, contemporary issues in social science, and research ethics. Required of all doctoral students in the School of Education.

A.4 Other Quantitative Courses at Rutgers

Geospatial Information Sciences
34:970:650 Planning Support Systems
- 16:450:615 Seminar in Remote Sensing
- 16:450:605 Land Change Science
- 16:450:617 Seminar in Remote Sensing of the Biosphere
- 16:455:501 Seminar in Geospatial Information Science
- 16:194:601 Information and Communication Processes
- 16:198:535 Pattern Recognition and Theory
- 16:198:541 Database Systems
- 22:198:603 Database Systems
- 16:332:484 Introduction to Computer Graphics
- 16:375:551 Remote Sensing of the Ocean and Atmosphere
- 16:712:615 Geophysical Data Analysis
- 17:610:557 Database Design and Management

Environmental Planning and Policy
16:375:501 Environmental Science Analysis
- 11:375:625 Life-Cycle Assessment Tools
- 16:127:507 Environmental Systems Analysis
- 16:198:510 Numerical Analysis
- 16:332:505 Control System Theory
- 16:220:549 Experimental Economics
- 16:711:613 Simulation

B Methods Exam Preparation

The qualifying exam in Methods assesses core competency in qualitative and quantitative research methods and research design. The Methods exam covers topics that are essential to the conduct of dissertation research and that an individual holding a Ph.D. in planning and public policy are expected to know. We suggest that you prepare for the Methods exam by doing the following:

1. Take some or all of the following introductory-level quantitative methods courses or, if you believe that you already have a thorough grounding in

the material, acquire their syllabi and reading lists and review the material covered in the course:

   (a) 970:515 Methods of Planning Analysis I
   (b) 833:530 Methods I-Research Design
   (c) 833:630 Methods II-Data Analysis

2. Take the required doctoral courses in qualitative and quantitative methods:

   (a) 833:628 Advanced Qualitative Methods
   (b) 970:630 Discrete Choice Methods

3. Prepare a reading list that covers the concepts taught in these courses as well as any additional methods you are likely to use in your dissertation research. Make sure you are familiar with the material covered in your reading list. Suggested lists of qualitative and quantitative methods topics and readings are provided below.

4. Practice defining concepts and succinctly discussing their relevance (e.g., "What is an ANOVA test and under what circumstances is it used?") Also practice comparing concepts and commenting on the appropriateness of alternative methods (e.g., clustered vs. stratified sampling; t-distribution vs. normal curve; logit model vs. linear regression). Finally, prepare to discuss "big picture" issues of structuring a research study in a longer essay covering research design, sampling, variable measurement, and data analysis.

5. Study in groups—it's more fun and more productive. Contact other members of your exam cohort to set up a study group well in advance of your anticipated exam date.

6. Give yourself a timed practice exam. Prior year exams are available from the Bloustein School's Office of Student Services.

B.1 Exam Format and Administration

The written portion of the Methods exam is in two parts, followed by an oral exam:

Part 1. Short answers covering quantitative and qualitative methods. Answer 11 out of 12 quantitative questions and 7 of 8 qualitative questions. Exam is closed book, handwritten in blue exam books. You will be expected to understand and be able to define basic formulas, concepts, and methodological tools.

(Lunch break)

Part 2. Longer essay that proposes a research plan for a study. The essay should address research design, sampling strategy, data collection strategy, and strategy for analyzing data. You must answer 1 of 2 or 3 questions, handwritten or typed, within the specified time limit.

B.1.1 Topics and Readings for Quantitative Methods

The following topics and suggested readings are likely to be covered in the quantitative portion of the Methods exam.

1. Design
   (a) Designs that help establish causality
   (b) Concepts of internal and external validity
   (c) Concept of counterfactual
   (d) Kinds of experimental and quasi-experimental designs
   (e) Advantages and disadvantages of above designs
   (f) Recommended readings: Rossi, Lipsey, and Freeman, 2004; Shadish, Cook, and Campbell, 2001.
2. Measurement and Data Collection
   (a) Concepts of reliability and validity
   (b) Types of reliability and validity
   (c) Relationship between reliability and validity
   (d) Data collection methods
   (e) Survey research
   (f) Recommended readings: Babbie and Rubin, 2010; Dillman, 2008; www.aapor.org.
3. Sampling
   (a) Types of sampling schemes
   (b) Types of random sampling schemes
   (c) Types of non-random sampling schemes
   (d) Advantages and disadvantages of sampling schemes
   (e) Recommended readings: Babbie and Rubin, 2010; Lipsey, 1990; Kish,1995.
4. Statistical Analysis
   (a) Descriptive statistics
   (b) Inferential statistics (Z, t, F-tests, Chi-square test)
   (c) Regression methods (regression assumptions, OLS, panel regression, instrumental variables regression, binary independent variable (Logit/ Probit), multiple category dependent variable (Multinomial Logit/ Ordered Logit/ Ordered Probit)
   (d) Other multivariate (data reduction) methods (factor analysis, cluster analysis, discriminant analysis)

(e) Statistical versus substantive significance

(f) Recommended readings: Aldenderfer and Blashfield, 1984; Berry and Feldman, 1985; Healey, 2004; Kachigan, 1991; Kennedy, 2003; Kim and Mueller, 1978; Lewis-Beck, 1980; Liao, 1994; Long, 1997; Stock and Watson, 2007.

Recommended Readings in Quantitative Methods

- Aldenderfer, M. and Blashfield, R. 1984. Cluster Analysis. Sage.
- Babbie, E. and Rubin, A. 2010. Research Methods for Social Work. Brooks Cole.
- Berry, W. and Feldman, S. 1985. Multiple Regression in Practice. Sage.
- Healey, J. 2004. Statistics: A Tool for Social Research. Wadsworth.
- Kachigan, S. 1991. Multivariate Statistical Analysis. Radius Press.
- Kennedy, P. 2003. A Guide to Econometrics. MIT Press.
- Kim, J. and Mueller, C. 1978. Factor Analysis. Sage.
- Kish, L. 1995. Survey Sampling. Wiley.
- Lewis-Beck, M. 1980. Applied Regression: An Introduction. Sage.
- Liao, T. 1994. Interpreting Probability Models: Logit, Probit, and Other Generalized Linear Models. Sage.
- Lipsey, M. 1990. Design Sensitivity: Statistical Power for Experimental Research. Sage.
- Long, S. 1997. Regression Models for Categorical and Limited Dependent Variables. Sage.
- Rossi, P., Lipsey, M., and Freeman, H. 2004. Evaluation: A Systematic Approach. Sage (ch. 7-10).
- Shadish, W., Cook, T., and Campbell, D. 2001. Experimental and Quasi-Experimental Design for Generalized Causal Inference. Wadsworth.
- Stock, J. and Watson, M. 2007. Introduction to Econometrics. Addison Wesley.

B.1.2 Topics and Readings for Qualitative Methods

The following topics and suggested readings are likely to be covered in the qualitative portion of the Methods exam.

- Research Design
  - Marshall, C. and Rossman, G. 1999. Designing Qualitative Research. 3rd, 4th, or 5th ed. Sage.
  - Interviewing
  - Rubin, H. and Rubin, I. 2004. Qualitative Interviewing: The Art of Hearing Data. 2nd ed. Sage.
- Focus Groups
  - Morgan, D. 1997. Focus Groups as Qualitative Research. Sage.
  - Morgan, D. 1993. Successful Focus Groups: Advancing the State of the Art.
    - B. Crabtree, et al. "Selecting individual or group interviews," pp. 137-149.
    - R. Zeller, "Focus group research on sensitive topics: setting the agenda without setting the agenda," pp. 167-183.
  - Illustration: Kline, Kline, and Oken. 1992. "Minority women and sexual choice in the age of AIDS. Social Science and Medicine 34: 447-457.
  - Illustration: Shively. 1992. "Cowboys and Indians: Perceptions of western films among American Indians and Anglos. American Sociological Review 57: 725-734.
- Other Data Collection Techniques
  - Denzin, N. and Lincoln, Y., eds. 1988. Collecting and Interpreting Qualitative Materials. Sage.
    - Chapter 4. Ian Hodder, "The interpretation of documents and material culture."
    - Chapter 5. Douglas Harper, "On the authority of the image."
    - Chapter 6. D. J. Clandinin and F. M. Conneilly, "Personal experience methods."
  - Denzin, N. and Lincoln, Y. eds. 1998. Strategies of Qualitative Inquiry. Sage.
    - Chapter 8. L.M. Smith, "Biographical method."
    - Chaptr 9. Gaye Tuchman, "Historical social science."
  - Creswell, J. 1997. Qualitative Inquiry and Research Design: Choosing Among Five Traditions. Sage, pp. 47-51.

- Illustration: Lopez, E., Eng, E., Randall-David, E., and Robinson, N. 2005. "Quality-of-life concerns of African American breast cancer survivors within rural North Carolina: Blending the techniques of photovoice and grounded theory." Qualitative Health Research 15: 99-115.
- Illustration: Angrosino, M. 1997. "On the bus with Vonnie Lee." In Cresswell, J., Qualitative Inquiry and Research Design. Sage, Appendix B.
- Illustration: Luken, P. and Vaughan, S. 2005. "... be a genuine homemaker in your own home:" Gender and familial relations in state housing practices, 1917-1922." Social Forces 83: 1603-1626.

• Observation, Participant Observation, and Ethnography

- Schensul, S., Schensul, J., and LeCompte, M. 1999. Essential Ethnographic Methods. Alta Mira Press, chapter 5, pp. 91-120.
- Dewalt, K. and Dewalt, B. 2002. Participant Observation: A Guide for Fieldworkers. Alta Mira Press, chapters 1-4, pp. 1-82.
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- Phenomenology, Ethnomethodology, Action Research, and Participatory Action Research
  - Denzin, N. and Lincoln, Y. eds. 1998. Strategies of Qualitative Inquiry. Sage.
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B.2 Theory Exam

It is the student's responsibility to select an examiner for his or her Theory exam, and you should initiate this process at least one semester (and preferably more) before the semester in which you intend to take the exam. The student

may choose any member of the graduate faculty in the Bloustein School as his or her Theory examiner but the format of the exam is uniform for all students, as described below.

Exam Format and Preparation. Current practice for the written qualifying exam in Theory is a take-home exam consisting of 1-2 essays (about 10 pages plus references) completed in a single 8-12 hour period. Exam questions are distributed via e-mail at approximately 9:00 a.m. on the day of the exam and completed essays must be returned within a designated time period. The written Theory exam consists of several questions on the general theory of planning and public policy, planning history, urban and social theory, the policy process, and related themes. All students receive the same questions and are able to choose the ones they want to answer.

The oral exam in Theory is combined with and held at the same time as the oral exam in the student's First Field and Second Field (see below). The oral exam provides an opportunity to follow up and clarify material in the written essays and to discuss the student's proposed dissertation research.

B.2.1 Preparation for the Theory Exam

requires attaining familiarity with the material in the following recommended reading list. This list comprises the basic, foundational literature that should be familiar to anyone receiving a doctoral degree in planning and public policy. All students are expected to have a working knowledge of the readings in all three sections of the following list:

NOTE: See separate file for the Theory reading list. The updated list applies to students entering in Fall 2021.

B.3 First and Second Field Exams

First and Second Field exams review the literature addressing substantive topics or subtopics relevant to the student's anticipated dissertation research. No hierarchical difference in importance between the two exams is implied despite their designation as "first" and "second" fields.

Exam Format and Preparation. Each student is responsible for selecting his or her examiners for First Field and Second Field exams from among the members of the Bloustein School's graduate faculty. Preparation for First and Second Field exams follows a similar process and timeframe as for Part B of the Theory exam: 1. At least one semester before your intended exam date, meet with your selected examiners and obtain their agreement to serve. Discuss the substantive or topical focus of your First and Second Fields. 2. Prepare a separate reading list for each exam. The length, breadth, and complexity of your reading lists are governed by the nature of the topics or subtopics you have selected. These should include theoretical aspects of your selected subject area. 3. Read and become familiar with the material on your reading lists. Remember that your reading is in preparation for your dissertation and not simply a means to pass an exam. 4. Discuss the format of your exams with your examiners.

Given the wide diversity of topics and students, there is no fixed format for First and Second Field exams. Past exams have taken the form of 5-10 page essays on pre-set questions; a longer (c. 20 page) synthesis of the literature; an article-length discussion of empirical research; and other formats as agreed to by the student and the examiner. 5. Contact your examiners to schedule a date for the combined oral exam in Theory and First and Second Fields. This should be done as early as possible to avoid time conflicts and accommodate busy schedules. Remember that the three written exams and the combined orals must be completed within a single semester.

B.4 Forms and Reporting Requirements

As soon as you have identified examiners, topics, and dates for your Theory, Major Field, and Minor Field exams, send this information in an e-mail to the Office of Student Services with a copy to the doctoral program Director.

Obtain a copy of the Degree Candidacy Form issued by the Rutgers School of Graduate Studies and available from the Office of Student Services. Complete page one of this form and bring it to your oral exams for signature by your examiners.