PhD Program Manual

School of City and Regional Planning

College of Design
Georgia Institute of Technology

2026-27 Academic Year



TABLE OF CONTENTS

1. Purpose of This Manual 2

2. Introduction 2

3. Admissions and Matriculation 3
3.1. Prerequisites 3
3.2. TOEFL Score 3
3.3. Accelerated MCRP Curriculum 3
3.4. Application Checklist 4

4. Program Requirements 5
4.1. Overview 5
4.2. Residency and Deadline Requirements 6
4.3. Active Status and Academic Warning 6
4.4. Advising 7
4.5. Curriculum 8
4.6. Typical Course of Study 9
4.7. Major and Minor Fields of Study 10
4.8. Independent Studies 12
4.9. Program of Study 12
4.10. Annual Reports 12
4.11. Comprehensive Examinations 13
4.12. Dissertation Proposal 16
4.13. The Dissertation 20
4.14. Seven-Year Completion Requirement 24

5. Financial Aid and Resources 25
5.1. Financial Aid 25
5.2. Faculty Resources 26
5.3. Georgia Tech Resources 28

6. Correspondence and Information 30

7. Appendix A: Program Synopsis and Milestones 31

8. Appendix B: Minor Field Synopsis for Minor Advisors 33

9. Appendix C: Georgia Tech Policies 36
9.1. Policy on the Advisement of Graduate Student Research 36
9.2. Policy on Publication of Theses 36
9.3. Guidelines for Ph.D. Dissertation Research 37

10. Appendix D: Governance of PhD Program 39

1. PURPOSE OF THIS MANUAL

This manual presents the requirements and policies of the PhD Program of the School of City and Regional Planning (SCaRP).

General Georgia Tech policies and procedures for graduate education are established by the Georgia Tech Faculty Senate. These policies can be found at:

https://grad.gatech.edu/sites/default/files/documents/GradGuide_2025.pdf

2. INTRODUCTION

The PhD Program in City and Regional Planning seeks to advance knowledge in the field and to enable students of exceptional ability to undertake study and original research, leading to academic and advanced professional careers.

Doctoral education in City and Regional Planning at Georgia Tech was initiated in 1985. Until 2009, doctoral education in the planning field was managed within the College of Architecture PhD Program, a college-wide doctoral program. Administration of the PhD in City and Regional Planning was assumed by the School of City and Regional Planning in 2009.

At Georgia Tech, our PhD program offers candidates the opportunity to pursue advanced academic research on issues most critical to city and regional planning today. We encourage doctoral candidates to study in areas of interdisciplinary interest by working closely with faculty mentors and advisors who share those interests. Our faculty's expertise spans the range of city and regional planning specialties with the following focus areas:

- **Housing, Community and Economic Development**, including foci in housing policy, real estate markets, and sustainable approaches to local, urban and regional development that bridge the gap between social equity, and economic and community well-being.
- **Urban Analytics,** including a focus on smart cities, urban informatics, and the use of data science to address major issues cities continue to face in issues related to environmental pollution, carbon emissions, traffic congestion, inadequate housing options, and disparities in access to urban services.
- **Sustainable Urban Planning and Design**, with foci on land use, environment, and physical design of modern cities, as well as the social and political underpinnings of sustainable planning practice and the design and application of GIS and other analytic tools.
- **Transportation Planning**, with a focus on efforts to enhance and manage mobility in the face of explosive growth in our urban areas, linking new models of transportation engineering with evolving research into urban restructuring.

City and Regional Planning works extensively with other schools, research centers and colleges in the delivery of both its Major and Minor fields of study. Cross-disciplinary

teaching and research programs are particularly strong with other academic units in the College of Design, the Center for Geographic Information Systems, the School of Public Policy, the School of Civil and Environmental Engineering, and the Georgia State University School of Law. Students are encouraged to develop strong working relationships with SCaRP faculty in their Major field of study, as well as faculty in allied fields for their Minor field of study.

The PhD Program endeavors to produce graduates well able to advance knowledge in their fields. They are expected to be well qualified to serve in a range of settings, such as universities, consulting in planning agencies, research and development firms, and government agencies, and advanced practice.

Requirements for the PhD are established by the Georgia Institute of Technology and the School of City and Regional Planning. Advisors and students frequently find that mastery of a field of study requires additional work beyond the basic requirements presented here.

3. ADMISSIONS AND MATRICULATION

3.1. Prerequisites

Applicants admitted to the PhD Program normally will have completed the requirements for the Master of City and Regional Planning (MCRP), or a related master's degree program. Students from allied fields are also encouraged to apply. In exceptional cases, students with a bachelor's degree only may be accepted directly into the PhD Program but will be required to complete the Master's in City and Regional Planning degree before advancing to candidacy for the PhD degree. PhD students are eligible for an accelerated MCRP curriculum, as outlined in section 3.3 of this manual.

3.2. TOEFL Score

International applicants to the SCaRP PhD Program must demonstrate a high degree of English language proficiency. TOEFL scores of 620/261/102 or higher for the test (paper, computer, and internet tests, respectively) are expected. Other evidence of English proficiency, such as provided in writing samples or oral interviews, may also be considered in determining language proficiency. Applicants who have completed a bachelor's or master's degree at a U.S. university are not required to submit TOEFL scores.

3.3. Accelerated MCRP Curriculum

For any student admitted into the PhD Program without a Master's degree in City and Regional Planning or an allied field (as determined by the PhD Committee at the time of admission), an accelerated master's degree curriculum must be completed in concert with the PhD degree requirements. PhD students holding a master's degree in an allied

field have the option to obtain this degree, but are not required to complete the accelerated MCRP. The requirements for the accelerated MCRP degree are as follows:

MCRP Program Core, 21 credit hours with a B or better grade

- History and Theory of Urban Planning (CP 6035; 3 credit hours)
- Planning Law, Regulation and Implementation (CP 6037, 3 credit hours)
- Advanced Planning Methods (CP 6025; 4 credit hours)
- Methods distribution requirement (3 credit hours)
- Economic Analysis in Planning (CP 6031; 3 credit hours)
- Intro to Geographic Information Systems (CP 6514; 3 credit hours)
- Community dynamics and engagement (CP 6036; 2 credit hours)

MCRP Specialization, 12 credit hours with a B or better grade

Twelve credit hours of coursework completed to fulfill the PhD Major area requirements may be counted toward the MCRP Specialization credit hours requirements. Each student must complete the two or three required courses for one of the six MCRP specialization areas.

MCRP Electives, 8 credit hours with a B or better grade

Eight credit hours of coursework completed to fulfill the PhD Minor area requirements may be counted toward the MCRP Specialization credit hours requirements.

MCRP Thesis, 10 credit hours with a B or better grade

Ten credit hours of dissertation proposal preparation (CP 8999) and a successful proposal defense may be counted toward the MCRP Thesis Option requirement.

Students who wish to complete an accelerated MCRP should discuss this with the program director of the MCRP and PhD programs and plan their course of study accordingly from the outset of the PhD program.

3.4. Application Checklist

The following documents must be submitted before an application will be considered:

- Application Forms
- Application Fee
- Three Letters of Recommendation
- Examples of previous research and written works
- Official transcripts from all previously attended institutions of higher learning
- Statement of Personal and Professional Goals
- Personal Biography Form
- Scores of the *Test of English as a Foreign Language* (TOEFL) for non-U.S. residents whose native tongue is other than English
- Graduate Record Examination (GRE) score

- Financial Statement (for non-U.S. residents/citizens)

All application materials are submitted using the Georgia Tech Graduate Studies and Admissions Online System. In most cases, students are accepted for and enter the program in the Fall semester.

4. PROGRAM REQUIREMENTS

The PhD Program is governed by the SCaRP faculty, with the CRP PhD Committee and PhD Program Director elected by the SCaRP faculty and designated for ongoing management of the Program (see Appendix D). The PhD Committee consists of the PhD Program Director, two SCaRP faculty elected for staggered two year terms, and one PhD student elected annually by the PhD students.

4.1. Overview

Successful completion of the PhD program requires fulfilling course requirements, passing the comprehensive examinations, preparing and defending a dissertation proposal, and undertaking research, writing, and defending a dissertation. This is a multi-year process that involves a close mentoring relationship with the student's advisor. The Checklist table that follows summarizes the major requirements of the program.

A student's program of study must include at least 19 credit hours of PhD Program core and seminar classes, 15 credit hours of study in a Major field, and 9 hours in a Minor field. The Major and Minor requirements are minimums; the particular field of study may require additional work.

Students must maintain a 3.0 GPA (B average) in all their coursework. A grade of C or less in any PhD Program requirement (Core, Major, and Minor) will not be accepted as meeting those requirements. For Program Core courses, the student must retake the course. The student will be terminated from the Program if a grade less than B is received more than once in a PhD Program Core course.

Graduate Research and Teaching Assistants must be registered for 12 credit hours. If coursework is insufficient to fulfill this requirement, GRAs/GTAs may register for Research Assistantship hours (CP 8998). The number of hours is flexible. These hours cannot be used to fulfill any PhD course requirements.

Based on these and other requirements, students shall complete not less than forty-six (46) credit hours in their Major field, Minor field, and PhD Program core requirements prior to advancement to candidacy. This is the equivalent of four semesters (two years) of full-time coursework.

Students also must pass a set of comprehensive examinations, as well as write and defend a dissertation proposal and dissertation.

4.2. Residency and Deadline Requirements

The program of study requires a minimum of two years of residency (not fewer than four semesters enrolled in six (6) credit hours each, excluding summer) devoted to coursework and other preparation for advancement to candidacy. Ordinarily, research for the dissertation will also be completed while in residence. After four semesters, special arrangements may be made with the PhD Committee if substantial work will be performed elsewhere.

Students must complete the comprehensive examinations and dissertation proposal within **five** years of the end of the first semester in which they enrolled as a PhD student at Georgia Tech. Students must defend a dissertation proposal within **two** years of the end of the semester in which the comprehensive exams are successfully completed. In addition, Georgia Tech requires that all degree requirements be completed within **seven** years from the end of the term in which the student passes the comprehensive exams.

4.3. Active Status and Academic Warning

To remain actively enrolled, students must register for three credit hours or more each academic semester (excluding summer, unless employed as a GRA). *Students who are not registered are automatically withdrawn from Georgia Tech and must apply for readmission to the program.* The readmission decision will depend on the student's academic record and progress toward the degree.

Students wishing to take a leave of absence from the PhD Program may apply in writing to the PhD Director for such approval. Following not more than four academic semesters, any student granted a leave of absence must enroll in the next academic semester for at least three credit hours or be automatically withdrawn from the PhD Program. The duration of an approved leave of absence will not count toward the rate of degree progress rules outlined in Section 4.2.

Doctoral students must register for a minimum of 1 hour of dissertation credit in the term of graduation. This reduction from the normal minimum course load of 3 hours may be used only once. If all requirements for graduation, including submission of the final approved dissertation, have been completed prior to the last day of registration, and the student was registered for the preceding term, the student may apply for a waiver of the enrollment requirement.

During the preparation of the dissertation proposal, the student enrolls in CP 8999, with the number of credit hours to be agreed upon with the advisor(s). Students who receive an "unsatisfactory" grade for two semesters, or who have petitioned for an extension of the Dissertation Proposal deadline (see Section 4.12) and failed to meet the extension deadline, will be required to develop a plan of remediation establishing a timetable to successfully complete the dissertation proposal within the next academic semester. Students failing to complete the dissertation proposal requirement during the period of remediation will be automatically placed on Academic Warning, requiring

a second plan of remediation for the following academic semester. Students failing to successfully complete the dissertation proposal requirement following the period of Academic Warning may be subject to dismissal from the program. Any such dismissal will be upon recommendation by the student's advisor and the PhD Committee, with final determination made by the SCaRP faculty.

4.4. Advising

Major Advisor

Each student works under the direction of a major advisor. Each student entering will be assigned an advisor upon matriculation by the PhD Program Director. Students wishing to change their advisor should do so during their first year. All appointments of advisors must be approved by the Program Director. Students wishing to change their advisor after the first year must petition in writing to the PhD Committee for approval.

Although the student's advisor has primary responsibility and authority for the student's program, most major steps and proposals are also reviewed by the PhD Committee, a standing committee of the School of City and Regional Planning. Members of the PhD Committee review compliance with program requirements and may also make recommendations to the advisor concerning student advisement.

Through advisement, the SCaRP faculty seeks to maintain and promote high standards of excellence in student work and to encourage a culture of assistance and support for student learning. The advisor is the student's partner and mentor, assisting in the development of the student's field of study and tracking progress toward completing the program. Students are encouraged to meet with other faculty in addition to the major advisor to explore questions associated with their field of study or other issues.

Faculty who serve as advisors are active in scholarship in their field and hold a PhD degree. In exceptional cases, a member of faculty who does not hold a doctorate but demonstrates an active program of scholarship and has had experience serving on a dissertation committee may be appointed as an advisor, subject to the approval of the PhD Program Director.

Minor Advisor

The student must also select a faculty member as an advisor for his/her Minor field of study. The minor advisor must be active in scholarship in their field and hold an academic faculty position in a department outside of the School of City and Regional Planning. The Minor advisor may be on the academic faculty of a university other than Georgia Tech. Minor advisors must be approved by the student's major advisor and the PhD Program Director. A complete description of the Minor field selection process that can be shared with the Minor advisor can be found in Appendix B.

4.5. Curriculum

Program Core - 19 credit hours, minimum, with a B or better grade

The Core course requirements are meant to provide students with a basic knowledge of planning theory, regional theory, and research design and methods. The PhD Foundations and Research and Pedagogy seminars are also intended to familiarize students with questions, methods, paradigms of research, and modes of scholarship and pedagogy associated with City and Regional Planning and related fields. Required for all first-year students, the PhD Foundations seminar (CP 8012) introduces students to the requirements of the PhD Program and contemporary issues in doctoral scholarship and academia.

The PhD Seminar in Research and Pedagogy (CP 8022) is designed to introduce students to professional skills associated with academic research and teaching. Each academic year, the seminar is composed of a scholarly speaker series in the Fall semester and a rotating professional skills module in the Spring semester. The professional skills topics covered over the course of three academic years include: 1) university-level teaching skills; 2) grant proposal writing and budget development; and 3) manuscript development and peer review. Each semester offering of CP 8022 is 1 credit hour, with all students required to complete 6 semesters of the seminar, including all three professional skills modules.

Program core requirements include:

- Advanced Planning Theory (CP 8200; 3 credit hours)
- Advanced Urban and Regional Development Theory (CP 8300; 3 credit hours)
- Research Design and Qualitative Methods (CP 8400, 3 credit hours)
- Advanced Quantitative Research Methods for Planning, Policy and Design (CP 8500, 3 credit hours)
- PhD Foundations Seminar (CP 8012, 1 credit hour)
- PhD Seminar in Research and Pedagogy (CP 8022, 6 credit hours)

Major Field of Study - 15 credit hours, minimum, with a B or better grade

The Major Field encourages students to individualize their course of study by focusing on an area of scholarship within City and Regional Planning. Major advisor(s) will work with the student to develop a course of study appropriate to the field. The Major must include the study of:

- history and precedent in the field;
- theory and concepts and their evolution;
- current debate; and
- methods of analysis and inquiry.

Minor Area of Study - 9 credit hours, minimum, with a B or better grade

The Minor Area encourages students to individualize their course of study by focusing on an area of scholarship outside of City and Regional Planning. The minor may involve substantive research questions, or it may focus on methodological approaches related to the substantive concerns found in the major. The Minor should include the study of:

- history and precedent in the field;
- theory and concepts and their evolution;
- current debate; and
- methods of analysis and inquiry.

Independent Study - 3 credit hours, minimum, in the first year of enrollment

All students are required to complete at least 3 credit hours of independent study coursework with their Major advisor in the first year of program enrollment. The purpose of this independent study is to enable each student to conduct preliminary research into potential dissertation topics and produce a well-structured literature review as an initial step in dissertation proposal development. See section 4.8 for more information on independent study coursework.

Total Course Requirements - 46 credit hours (minimum)

During the course of study, students may enroll for credits related to their preparation for comprehensive exams, the dissertation proposal, or advisor-approved independent study. The course numbers for these activities are:

- Comprehensive Exam Preparation (CP 7999, 1-21 credits)
- Dissertation Proposal Preparation (CP 8999, 1-21 credits)
- Doctoral Dissertation (CP 9000, 1-21 credits)
- Independent Study (CP 8900, 1-6 credits)

4.6. Typical Course of Study

The following is an example of a planned program of study. To be considered in good standing in the program, students are expected to realize these target completion dates for coursework and other program requirements, unless there are valid reasons to extend the period of study. In particular, the specifics of a student's Major Field and Minor Area of study should be designed soon after matriculation, through consultation with the student's Major advisor, Minor advisor, and other faculty.

First Year

- ✓ Significant progress on completing core requirements
- ✓ Progress toward completion of coursework in Major and Minor
- ✓ Year-end progress report submitted by student and Major advisor
- ✓ Satisfaction of the independent study requirement

Second Year

- ✓ Completion of core comprehensive exams associated with first year core classes
- ✓ Completion of Major and Minor fields coursework
- ✓ Year-end progress report submitted by the student and Major advisor

Third and Fourth Year

- ✓ Completion of comprehensive examinations
- ✓ Completion of Program seminars
- ✓ Defense of dissertation proposal
- ✓ Dissertation research
- ✓ Year-end progress reports submitted annually by the student and Major advisor
- ✓ Approval of dissertation by Dissertation Examination Committee
- ✓ Award of PhD degree

4.7. Major and Minor Fields of Study

Major Field of Study

The student's Major field of study must be centered on coursework associated with the School of City and Regional Planning. Majors may focus on traditional planning areas, including environmental planning, transportation planning, or economic development planning, or may be centered around emerging areas of study such as sustainable development planning.

The Major field for each PhD student is expected to be determined prior to matriculation or soon thereafter. The Major field is not normally changed after admission. In exceptional cases, changes may be requested by submitting a proposal that explains the change to the current Major advisor and the proposed new Major advisor in the new field of study. Such changes are reviewed and must be approved by the CRP PhD Committee.

Requirements for the Major are met by satisfactory performance (defined as a B or better grade) in courses comprising not fewer than fifteen (15) credit hours (these courses must be taken for a letter grade). Coursework for the Major should be at the 6000 level or above. Courses at the 4000 level may be allowed with permission of the student's Major advisor.

The student's Major advisor has discretion to require other courses within the College or other units within the University System of Georgia consistent with the student's expressed interest in their selected field of concentration. Courses in the student's Major should prepare students to make significant research or scholarly contributions to their chosen field. They are expected to cover a range of topics including: history and precedent in the field, theory and its evolution, current debate, and methods of analysis and inquiry.

Once the Major has been satisfactorily completed, the student should submit a list of course titles, professors with whom the courses were taken, and grades received to the PhD Program Director for recording. If directed/independent study courses are used for the Major, the student must submit a copy of the course syllabus/outline, reading list, and the final product produced for the course.

Minor Area of Study

Minors are designed to enable the student to apply knowledge from other fields toward theory building and research in planning. The Minor must be clearly distinguishable from planning in its intellectual roots.

The student is responsible for knowledge at the level of professional competence for the selected Minor field. The focus of the Minor should therefore be clearly delineated.

Students are expected to determine their Minor field of study by the end of their first year in residency. The Minor must be based on offerings outside the School of City and Regional Planning (no course with a CP prefix or jointly listed as a CP course can be used). Minors often focus on traditional fields of study associated with other professions. Examples include:

- urban economics
- transportation engineering
- cultural anthropology

Minors can also provide particular depth in a specific field of inquiry. Examples include:

- wetlands conservation biology
- environmental valuation

Finally, Minors can focus on a methodological area with a well-developed theoretical and substantive foundation. Examples include:

- urban and regional modeling
- econometrics
- statistics

The Minor must be chosen by the student in consultation with the student's Major advisor and approved by the PhD Committee and the Institute's Office of Graduate Studies and Research. Coursework for the Minor should be at the 6000 level or above. Courses at the 4000 level may be allowed with permission of the student's advisor.

The student should identify a Minor advisor in the course of fulfilling the Minor requirements. The Minor advisor can advise on the courses in which the student should enroll to gain the desired competency in the area. Later, the Minor advisor will participate in preparing and evaluating the Comprehensive Examination.

Courses taken at other institutions may be accepted for Minor area requirements, subject to approval by the PhD Program Director.

Requirements for the Minor are met by satisfactory performance (defined as a B or better grade) in courses comprising not fewer than nine (9) credit hours (these courses must be taken for a letter grade).

Once the Minor has been satisfactorily completed, the student should submit a list of course titles, professors with whom the courses were taken, and grades received to the PhD Program Director for recording. If directed/independent study courses are used for the Minor, the student must submit a copy of the course syllabus/outline, reading list, and the final product produced for the course.

4.8. Independent Studies

Independent study hours enable students to perform directed reading and writing on a topic of interest in consultation with a faculty advisor. Students are permitted to register for up to 6 credit hours of independent study coursework per semester. All students are required to complete at least 3 credit hours of independent study coursework with their Major advisor in the first year of program enrollment.

4.9. Program of Study

Working with the Major advisor, and no later than the end of the first year, the student should submit a program of study to the PhD Program Director. This submittal shall be included as part of the student's Annual Report. The program of study should propose:

- Major and Minor areas of study, including a list of courses taken or to be taken;
- Plan for fulfillment of core requirements.

The program of study should be approved by the Major advisor. Minors should also be approved by the student's Minor advisor once that advisor has been selected. This proposed plan of study must accompany the annual report submitted to the PhD Program Director by the conclusion of the student's second semester.

4.10. Annual Reports

Students are required to submit year-end reports to the PhD Program Director that update their progress relative to the program of study. Submission of these reports is electronic and provided to the Director on the Annual Report form that asks for:

- name of Major advisor;
- Major and Minor courses taken or to be taken (including course titles, professors with whom the courses were taken, and grades received; if directed/independent study courses are used, a copy of the course syllabus/outline, reading list, and the final product produced for the course);
- other coursework taken or to be taken;

- major milestones completed and date of completion;
- GPA;
- other accomplishments, including conference presentations, publications, and so forth.

At the completion of the first year in the program, all students admitted to the PhD Program are subjected to a careful review, and students are advised whether they will be permitted to continue in the program. This review takes into account the information provided in their end-of-year report, his or her participation in scholarly and research activities in the College, and the PhD faculty's opinion of the student's likelihood of successfully completing the PhD degree.

4.11. Comprehensive Examinations

The Comprehensive Examinations test the capacity of the student in his/her/their Major and Minor fields and in core planning knowledge. The Exams are administered at the start of the second and third years in the program, with students first sitting for core comprehensive exams testing material covered in core courses offered in the preceding year, and then, following completion of the core comprehensive exams, the Major and Minor field exams are completed in September of the third year. The scope of each exam (Core, Major field, Minor field) should include its development, theory, and methods of analysis and inquiry. During preparation for the Comprehensive Exams and the semester in which students take them, they may enroll in CP 7999, with hours to be agreed upon with their advisor.

PhD students will be tested in three areas:

- the SCaRP Core,
- the student's Major field of study, and
- the student's Minor field of study.

Core Exams

The Core exams shall consist of three 8-hour exams, designed to test for core competency in planning. The exams cover the three core areas of planning theory, urban and regional theory, and research methods and design. Each section of the exam will be based on a bibliography or specified set of concepts, as provided to the student in the corresponding core course. The exams are open-book and open-notes.

Students may waive out of any of the core exams by achieving a grade of "A" in the corresponding core classes of Advanced Planning Theory (CP 8200), Advanced Urban and Regional Development Theory (CP 8300), Research Design and Qualitative Methods (CP 8400), and Advanced Quantitative Research Methods for Planning, Policy and Design (CP 8500). To waive out of the research methods and design core exam, students must achieve a grade of "A" in both the Research Design and Qualitative Methods (CP 8400) and Advanced Quantitative Research Methods for Planning, Policy and Design (CP 8500) courses. Students opting to waive out of any core comprehensive exam must document

this election in the comprehensive exam proposal submitted to the PhD Program Director at least six weeks prior to the major and minor exams, as discussed in the following section on "Major and Minor Exams."

The administration of core comprehensive exams is sequenced to follow the offering of each course in the prior year. Thus, students entering the PhD Program during a year in which the Planning Theory and Urban and Regional Theory courses are offered will sit for the associated core exams in August of their second year and then sit for the Research Methods and Design in August of their third year. Once all core exams are completed, students may sit for the Major and Minor field exams, which in the standard sequence should occur in September of the third year.

The comprehensive exams must be completed using normal academic standards consistent with Georgia Tech's Honor Code (e.g., plagiarism, sole authorship, completion without help, etc.). Electronic materials (e.g., Word documents, PDF files, internet materials) may be used for reference but may not be copied directly into answers. Each core comprehensive exam will be prepared and evaluated by the person who taught the core course associated with the exam or a substitute approved by the PhD Program Director and graded with no oral defense. The Core Exams will be coordinated by the PhD Program Director, who will also coordinate the evaluations of the examiners, as well as the outcomes of the Core Exams. Possible outcomes include Pass with Distinction, Pass, Pass with Remediation, and Fail (described in detail below).

Major and Minor Exams

Major and Minor Exams will consist of both written and oral components. The written test will consist of a 2-day major exam (48-hours) and a 1-day minor exam (24 hours). The tests will be conducted as take-home, open-note exams. Ideally, the major and minor exams will happen in the fall of year three, in the semester following the completion of coursework in year 2.

The Comprehensive Exam Committee shall consist of three persons, including the student's Major advisor (who will function as Chair), Minor advisor, and an external examiner taken from amongst the SCaRP PhD faculty. The external examiner is approved by the PhD Program Director, upon consultation with the Major advisor.

At least six weeks before the scheduled date of the examination, the student's Major advisor will submit a comprehensive exam proposal to the PhD Program Director. The proposal should be developed by the student under the guidance and approval of the Major advisor (for all aspects of the exam) and the Minor advisor (for the Minor Exam proposal). The proposal shall include:

- two-page descriptions of the Major and Minor fields (which clearly delineate the extent of the field and key questions or issues encompassed therein), with an extensive bibliography that encompasses the domain for the examination agreed upon by the student and his/her Major and Minor advisor;

- the student's program of study, showing all courses taken for the core, major, minor, and elective, with dates of courses taken, names of instructors, and grades received;
- membership of the Comprehensive Examination Committee, including the Major advisor, Minor advisor, and external examiner. If it is proposed that examiners from outside of Georgia Tech be members of this examination committee, their qualifications (name, address, and 2-page bio) must be included in this proposal;
- the proposed dates of the Major and Minor Exams and of the oral review.

The Major and Minor Exams, and the oral defense, must be completed within a four--week time period.

The Major and Minor Exams will be administered and evaluated by the student's Comprehensive Examination Committee. At each examination, the student should pick up the assignments at a prescribed time and place and return the completed examination within the allotted time.

The Comprehensive Examination Committee should meet with the student within two weeks of the delivery of the last of the responses. The Examination Committee will conduct an oral review with the student for the purpose of clarifying the content of all or part of the responses, exploring ideas presented in those responses, or expanding on ideas or themes suggested by those responses. This oral defense should be scheduled before the initiation of the Comprehensive Exams. The examiners responsible for the comprehensive examination will meet to determine one of the following outcomes for the examination as a whole.

- *Pass with Distinction* indicates exemplary response to a given examination. This result indicates that the student has demonstrated not only mastery of materials, but the capacity to synthesize that material into a compelling argument.
- *Pass* indicates an adequate response to a given examination. This result indicates that the student has demonstrated not only mastery of materials, but the capacity to synthesize that material into a thorough discussion.
- *Pass with remediation* indicates that, while the student's responses demonstrate an adequate foundation in an area, the responses show important weaknesses in the way the student interpreted the question(s), interpreted or applied the literature or methods of inquiry applicable to the question(s), or otherwise did not offer a compelling argument or thorough discussion. The examiners, in consultation with the Program Director, would determine the appropriate remedial actions short of having the student retake the entire examination. Successful completion of the requirements of the remedial action shall result in a Pass, while failure to meet the requirements shall constitute a failure of the examination.
- *Fail* means that the student has not demonstrated sufficient mastery of material and/or ability to offer a compelling argument or thorough

discussion. The student must not only work out a plan for remedial studies with the examiners, in consultation with the PhD Program Director, but also retake the portion(s) of the examination that were failed when such studies are satisfactorily completed. If a student fails a second Comprehensive Examination, the student is automatically withdrawn from the PhD Program and cannot be readmitted.

Upon completion of the Comprehensive Examination, the Major advisor will submit the Comprehensive Examination Committee's recommendation to the PhD Program Director. The Major advisor will also transmit to the PhD Program Director the results of any remediation or retake of assignments. The PhD Committee may review the exam (including the content of questions and answers) at their discretion and is responsible for final approval of the examination.

4.12. Dissertation Proposal

Upon satisfactory completion of the Comprehensive Examination, a Dissertation Advisory Committee shall be formed, and the student shall work with this committee throughout the dissertation process. The dissertation process requires the production and formal presentation of a dissertation proposal, whose satisfactory completion leads to PhD candidacy. Following the written completion of the dissertation, it is defended orally.

Dissertation Advisory Committee

The composition of the Dissertation Advisory Committee includes the student's advisor (who is a SCaRP PhD faculty member) and at least two other faculty members, at least one of whom is a SCaRP PhD faculty member. The Committee is chaired by the student's advisor. Changes in the composition of the Dissertation Advisory Committee must be approved by the SCaRP PhD Committee.

The Dissertation Advisory Committee is charged with:

- working with the PhD student in identifying a dissertation topic and developing a dissertation proposal;
- convening the dissertation colloquium and rendering a decision on advancement to candidacy;
- managing the dissertation process;
- convening the dissertation defense and rendering a decision on awarding the PhD degree; and
- certifying to the PhD Program Director that the dissertation has been satisfactorily completed.

Occasionally, the PhD student may need or wish to replace a member of the Dissertation Advisory Committee. The process for replacement is as follows:

- The PhD student presents the reasons for the replacement and nominates a replacement for consideration by the Chair, or, if the Chair is to be replaced, by the PhD Program Director.
- The Chair or PhD Program Director shall review the circumstances and the request and shall make a decision to accept, deny, or modify the PhD student's request.
- Generally, only one replacement will be considered unless the student wishes to pursue an entirely different dissertation topic, or if the PhD Program Director determines there is cause for such a replacement not related to academic or scholarly differences.
- All replacements are subject to the review of the PhD Committee.

No changes will be allowed to the composition of the Committee once the final draft of the dissertation has been distributed for review.

During the preparation of the dissertation proposal, the student enrolls in CP 8999, with the number of credit hours to be agreed upon with the advisor. As explained in Section 4.3, students who receive an "unsatisfactory" grade for two semesters, or who have not defended their proposal within two years of completing their comprehensive exams, must develop a plan of remediation to avoid the issuance of an Academic Warning and possible dismissal from the program.

Dissertation Proposal

In consultation with his/her Dissertation Advisory Committee, the student will identify a dissertation topic and develop a formal dissertation proposal. The topic need not be limited to one field of study but may be interdisciplinary in nature. The dissertation proposal content, defense, and decision on advancement to candidacy are reviewed below.

The dissertation proposal **must be defended within 8 months** of successful completion of the Comprehensive Exams. Students unable to successfully defend a Dissertation Proposal within this 8-month period must petition the PhD Program Director in writing for an extension. Petitions for extension should state the reasons for the requested extension and a proposed timetable, and should be forwarded to the PhD Program Director by the student's Major advisor. It is fully expected that students may require more time to complete the Dissertation Proposal due to changing family status, employment responsibilities, or health issues, among other life events, and so the extension application process is intended to serve as an opportunity for the student, Major advisor, and PhD Program Director to consult on a suitable timetable for Program advancement. Once an agreed-upon extension is granted, students unable to meet the established deadline will be placed on Academic Warning, resulting in the development of a plan of remediation, as detailed in Section 4.3.

Content of Dissertation Proposal. Typically, the dissertation proposal contains the following elements:

- general statement of the scope of the dissertation;

- significance of the dissertation to a recognized body of knowledge;
- survey of existing research and literature with critical comments and an assessment of the extent to which this material will be utilized;
- overall research design and method of inquiry and/or analysis;
- outline of the anticipated dissertation contents;
- working or preliminary bibliography; and
- identification of resources such as databases or information repositories on which the dissertation will be based.

The Dissertation Advisory Committee shall reserve the right to further specify the nature of the proposal.

Colloquium. Upon preliminary approval of the dissertation proposal by the Dissertation Advisory Committee, a colloquium will be arranged at which the proposal will be formally presented to interested faculty, students, and guests. The colloquium is intended to notify scholars of the work to be undertaken, the manner of the research, and its significance. It also gives scholars the opportunity to suggest refinements in the manner of inquiry or additional questions that may substantially advance the meaningfulness of the work.

Announcement of the Dissertation Proposal Colloquium must be made at least two weeks prior to the colloquium's date. It must include the Proposal title, abstract, the Dissertation Advisory Committee membership, and the time and location of the colloquium. Announcement is to be made to the SCaRP PhD Program faculty and students and other potentially interested faculty on the Georgia Tech campus. The format of this session is a presentation (typically 30 to 45 minutes) of the dissertation proposal by the student, followed by questions and discussion by the Dissertation Advisory Committee and other interested participants.

Candidate Status. Upon completion of the colloquium, the Dissertation Advisory Committee will meet to decide on the candidacy status of the PhD student. There are four possible decisions the committee may render:

- *Approval* means that the proposal needs very minor or no further refinements, the student has been advanced to candidacy, and the dissertation work may commence. If there are refinements necessary, the candidate can be trusted to incorporate those refinements into the dissertation work without further review by the Dissertation Committee.
- *Approval with minor modifications* means that the proposal needs minor refinements to address concerns raised during the colloquium that will be required of the dissertation, but the student is nonetheless advanced to candidacy and the dissertation work may commence. Such refinements will be reviewed by the Dissertation Committee Chair, who may accept or reject the refinements, or require further modifications.
- *Approval with further review* means that the proposal is in such need of modifications that the Dissertation Committee needs to condition approval on its further review of the proposal. Only when the Dissertation Committee

deems the modifications adequate will the student be advanced to candidacy, and the dissertation work may commence.
- *Non-approval* means that the proposal is not suitable for further consideration and either must be reworked and presented again or a different topic developed.

Under no circumstances may a student receive two non-approvals; if two non-approval decisions are rendered by the Dissertation Committee, the student is automatically withdrawn from the PhD Program and cannot be readmitted.

Advancement to Candidacy

Advancement to candidacy occurs when the student successfully completes the program of study, the Comprehensive Examinations, their dissertation proposal colloquium, and has their dissertation proposal approved by the student's Dissertation Advisory Committee.

For recognition of the status of **PhD candidacy**, the student must file a form with the PhD Program Director and the Office of Graduate Studies and Research naming the Dissertation Advisory Committee and delineating the dissertation topic, as well as a copy of the approved dissertation proposal. At the same time, the student must list the courses taken for both the Major and Minor areas and the grades received.

IRB Review

All dissertation proposals must be reviewed by Georgia Tech's Institutional Review Board for compliance with IRB ethics requirements. Either a copy of the IRB's Letter of Exemption or Approval must be submitted by the student to the student's advisor and to the PhD Program Director before commencement of research. If the student's advisor (Chair of the Advisory Committee) determines that IRB review is not warranted (because the dissertation project neither obtains data from interaction with individuals nor obtains any identifiable private information), the advisor should certify this exemption by emailing the PhD Program Director and so indicating.

Changes to the Dissertation Topic

On rare occasions, a student may wish to substantially change an approved dissertation topic after advancement to candidacy. To do so, the student must reconstitute a new Dissertation Advisory Committee, prepare a new proposal, and defend that proposal in a colloquium, following all the procedures set forth above for the original proposal. In addition, the student must submit a form signed by members of the old Dissertation Advisory Committee acknowledging that the student has decided to change their topic and approving that request.

A change of dissertation topics does not alter the deadline for completing the dissertation within seven years of completing the comprehensive exams, as discussed under *Residency and Deadlines Requirements* (Section 4.2) and *Seven-Year Completion Requirement* (Section 4.14).

4.13. The Dissertation

The PhD dissertation is a written piece of original scholarship that represents a significant new perspective or contribution in the chosen field of study. The candidate must complete a searching and authoritative investigation in the chosen field, culminating in a written dissertation covering that investigation. The dissertation must be either an addition to the fundamental knowledge of the field or a new and substantially better interpretation of facts already known. The dissertation is required to demonstrate that the candidate possesses powers of original thought, is able to structure and carry out an original research undertaking, and is able to organize and present the logic of the research enterprise and its results. The dissertation must meet the criteria published in the **Guidelines for PhD Dissertation Research (Section 9.3)**, issued by the PhD Program in City and Regional Planning, as well as the Thesis and Dissertation Manual, which is available in the Institute's Office of Graduate and Postdoctoral Education.

Dissertation Hours

Typically, an additional two years or more is required to complete the dissertation proposal and the dissertation. After advancement to candidacy, students should complete at least twelve (12) credit hours of dissertation (CP 9000) in not more than nine (9) credit hours per semester. Students must register for a minimum of 3 credit hours of CP 9000 per semester (excluding summer) until graduation. The credit hours may be reduced to 1 credit hour during the last term when the dissertation is completed. This reduction may be used only once.

Review by the Dissertation Advisory Committee

The Dissertation Advisory Committee will evaluate the draft(s) of the dissertation when ready, ascertain whether it has met the objectives stated in the proposal, and determine whether it meets minimal standards for dissertations. Candidates must take care that the draft(s) presented for review is complete and correct. Any committee member may return a draft unread if he or she deems the draft of inappropriate quality, content, organization, style, or presentation. Members of the Dissertation Advisory Committee must be afforded not less than two weeks during an academic semester (excluding summer) between the first and last days of class in which to review material.

The Dissertation Examination Committee

The dissertation defense will be conducted by a Dissertation Examination Committee which is subject to approval of the Institute's Office of Graduate Education. There must be a minimum of five persons on the Examination Committee. The Examination Committee will include all members of the Dissertation Advisory Committee. External examiners will be identified by the advisor in consultation with the student, and with the approval of the PhD Program Director. Georgia Tech requires that at least one member of the Final Doctoral Examination Committee must be external to the unit in which the student is enrolled. A committee member is eligible to be the "external" member if they have a terminal degree and either 1) are a faculty member from a unit

that is distinct from the unit in which the student is enrolled, or 2) are not employed by Georgia Tech and are active in research related to the topic of the dissertation. The purpose is to ensure quality in the review process, but external examiners also provide an opportunity for the student to build a relationship with external experts in the field. The student must arrange with each external examiner the time period in which the document will be read (examiners must be given a *minimum* of 14 days to read the complete draft). Their evaluative comments will be given at the time of the defense.

The Examination Committee must be constituted before the dissertation defense.

Dissertation Structure

The dissertation document can adhere to one of two formatting structures. The traditional dissertation structure is that of a monograph – a unified document describing research questions, hypotheses, relevant literature, research methods, results, and conclusions (generally structured as policy recommendations) by a single author. It is common for monograph dissertations to be published as sole-authored books or as one or more peer-reviewed articles drawn from the dissertation as a whole.

A second dissertation structure is that of the three-paper dissertation. The three-paper dissertation consists of three individual article manuscripts or published articles combined with introductory and concluding chapters.

The student may elect to adopt either of these dissertation structures, in consultation with their advisor. For students choosing the three-paper dissertation, several additional requirements must be met:

1. The student must be the lead author on all three papers and may not collaborate with other authors on the writing of dissertation chapters. When warranted, committee members may be invited to serve as co-authors on manuscripts drawn from the dissertation and submitted for publication. All articles must be deemed by the dissertation committee to be of publishable quality; there is no requirement that any of the three papers be accepted for publication or appear in print prior to the completion of the PhD Program.

2. With approval from the dissertation committee, one of the three papers may be completed prior to the dissertation proposal defense. The article must be relevant to core questions posed by the dissertation research and have been submitted for publication during the student's tenure in the PhD program. No students may serve as co-authors on any of the three papers included in the dissertation.

3. In anticipation of the need to adjust manuscript drafts prior to journal submission or during a review process, the student will not be bound by the author team composition following graduation from the PhD program.

4. If an article is accepted for publication prior to the submission of the completed dissertation to the Office of Graduate Education, journal permission may be required to reproduce and archive the article as a chapter in the dissertation. Securing such permissions is the sole responsibility of the student.

5. All three-paper dissertations must include introductory and concluding chapters, in addition to the three-paper chapters. The introductory chapter is intended to present individual research questions and unifying themes of the dissertation, as well as the rationale for the research. The concluding chapter is intended to identify potential policy directions suggested by the work, or other outcomes informed by the dissertation as a whole.

Preparation for the Dissertation Defense

Satisfaction of the requirements for the PhD degree includes a successful public defense of the dissertation.

When the Dissertation Advisory Committee agrees that the dissertation is satisfactory for defense, the Chair will notify the PhD Program Director that the final examination can be scheduled. The letter of notification must state that the dissertation is in final form and that all members of the Dissertation Advisory Committee have read this final form and agree that it is satisfactory for defense. In addition to this notification, the Chair recommends nomination for any additional external examiners needed to constitute the Examination Committee (see above). The nomination should include the name, address, and a 2-page bio of any non-Georgia Tech faculty. The PhD Program Director appoints the external examiners.

The Chair of the Dissertation Advisory Committee will coordinate the defense with the PhD Program Director. The date for the defense must allow adequate time for the evaluations of the external examiners. The program office requires a *minimum* of 14 days to schedule a defense (by Institute regulation). Additional time may be required by the Chair or other members of the committee. The defense must be scheduled during an academic semester between the first and last days of class, unless exempted by the PhD Program Director.

The student and a majority of the members of the Examination Committee (including the Chair and at least one other member of the SCaRP PhD faculty) must be physically present at the examination. Members of the Examination Committee connected remotely should be able to easily follow the progress of the defense. The Defense is a public presentation open to faculty and students.

At least two weeks prior to the defense, the time and place of the defense shall be announced in an Official Notice of Dissertation Defense. The Notice shall be sent to the faculty and PhD students of the School of City and Regional Planning and other faculty and students as appropriate, and copies of the dissertation will be made available for general faculty review. This should be coordinated through the SCaRP Academic Advisor.

Dissertation Defense

The format of the defense is a presentation of the dissertation by the student (approximately 45 minutes), followed by questions and discussion by the Dissertation Examination Committee, and open questions/discussion from the audience. A final examination, in a closed session between the student and Examination Committee, is to determine whether all the minimal standards for the dissertation have been met.

PhD Decision

Upon completion of the dissertation defense, the Examination Committee will meet to decide the outcome of the defense. There are four possible decisions the committee may render: approval, approval with minor modifications, conditional approval with further review by the Dissertation Committee, and non-approval. The decision of the Examination Committee must be made by a majority of members, with no more than one member dissenting on the decision.

- *Approval* means that the dissertation needs very minor or no further refinements. If minor refinements are necessary, the candidate will be trusted to incorporate those refinements into the dissertation without further review.
- *Approval with minor modifications* means that the dissertation needs minor refinements to address concerns raised during the dissertation defense that will be required of the dissertation. Such refinements will be reviewed by the Examination Committee Chair, who may accept or reject the refinements or require further modifications.
- *Approval with further review* means that the dissertation is in such need of modifications that the Examination Committee needs to condition approval on further review of a new draft of the dissertation. The Examination Committee will determine if this review is to be conducted by the full Examination Committee or the Dissertation Committee. Only when such modifications are deemed adequate will the student be awarded the PhD degree.
- *Non-approval* means that the dissertation is not suitable for further consideration and must either be reworked and presented again, or a different topic developed.

If both the dissertation and the examination are satisfactory and the candidate has completed all other requirements, the Office of Graduate Education will certify the candidate as qualified to receive the degree of Doctor of Philosophy. The student is responsible for submission to the Program office of the appropriate forms, signed by the Dissertation Committee, upon satisfactory completion of the dissertation and defense. Appendix C summarizes the Institute Policy on Publication of Theses. This policy allows for a temporary embargo on Institute publication of the dissertation, which may be desirable for the student's publication efforts in journals.

Under no circumstances may a student receive two non-approvals; if two non-approval decisions are rendered by the Examination Committee, the student automatically is withdrawn from the PhD Program and cannot be readmitted.

Registration during the Final Semester

The student must register for the semester in which the final examination occurs and for the semester of graduation. The credit hours may be reduced to 1 credit hour during the last term when the dissertation is completed. This reduction may be used only once.

A waiver of the registration requirement may be obtained **only** if all requirements for graduation, including submission of the final approved dissertation, have been completed prior to the last day of registration, and the student was registered for the preceding semester. Candidates are expected to apply for graduation in the semester prior to their intended graduation term. Georgia Tech uses the Online Application for Graduation (OAG) system, which students can access through OSCAR. Please note that restrictions may apply—be sure to review the Registrar's Office Degree Certification Process carefully before submitting your application.

4.14. Seven-Year Completion Requirement

Georgia Tech Completion Requirement. Georgia Tech requires that all degree requirements must be completed within seven years of passing the comprehensive examinations. A petition to continue past that deadline must be approved not only by the SCaRP PhD Committee but also by the Institute Graduate Curriculum Committee.

City and Regional Planning Comprehensive Exam Retake Requirement. Because issuance of the PhD is a certification of the student's competency in the field, students who do not meet the seven-year deadline will be required to retake the comprehensive exams. The procedure for retaking the exams will be comparable to those noted in the section on Comprehensive Examinations (Section 4.11). The material and bibliography for core exams will be from the current core offerings, and students who retake the exam will be responsible for material added to the core.

The PhD Committee will provide a one-year extension of the requirement to retake the Comprehensive Exams (to eight years) if the student previously requested and had been approved by the Committee a leave of absence. The request should be made at the time of the event. The PhD Committee may provide an extension for other reasons consistent with the intent of this requirement. This extension applies only to the comprehensive exam retake requirement; students must still petition for extension of the seven-year deadline to the Institute Graduate Curriculum Committee.

5. FINANCIAL AID AND RESOURCES

5.1. Financial Aid

The program offers a variety of financial aid opportunities to its students. Most types of financial assistance at the graduate level are merit-based rather than need-based. Because of the ongoing academic and research activities, research assistantships and scholarships are often available. Need-based aid is also available from the Institute's Financial Aid Office.

The following list provides examples of the range of funding sources available and is not intended to be exhaustive.

Fellowships

- *President's Fellowships (PFs)*: Each year, the Institute awards fellowships to applicants with outstanding academic records and high research potential. The award consists of a significant supplement to an existing assistantship or other fellowship. PFs provide an additional stipend of $5,500 per academic year of full-time enrollment and may be awarded for a total of eight terms maximum.
- *Georgia Tech Institute Fellowship (GTIF)*: GTIF is one of Georgia Tech's most prestigious fellowships for graduate students, awarded to a small, select number of President's Fellowship (PF) holders. It supplements an assistantship or other fellowship already held by the student. The GTIF provides an additional $1,000 per term beyond the amount the student would receive from a PF. It is renewable for up to three additional academic years.

Assistantships

- *Graduate Teaching Assistantships*: Teaching Assistantships are awarded to students capable of making significant contributions to the instructional programs within the College of Design. The availability of these positions is dependent upon the needs of the School of City and Regional Planning. Carrying full tuition waivers, these positions are awarded by the SCaRP School Chair with concurrence from the SCaRP Faculty and PhD Program Director.
- *Graduate Research Assistantships*: Assistantships may result from faculty sponsored research activities or from the service needs of the school. The school and associated research centers have an active research program and employ students to aid in research. These awards, which carry full tuition waivers, are ordinarily offered to students on a one-third time basis.

Scholarships and Sponsored Scholarships

- *Regent's Opportunity Scholarships*: These scholarships are available to aid economically disadvantaged students who are minorities and residents of Georgia. These renewable awards are $5,500 each for one academic year of

study. Out-of-state tuition waivers (allowing non-Georgia residents to pay resident tuition fees) are awarded on a competitive basis to selected students in their second year of study. Minority students and women are eligible to participate in the Regents' Opportunity Scholarship Program. These are renewable awards for residents of Georgia for two semesters of study. Additional information on the Regents' Opportunity Scholarship may be obtained from the Institute's Graduate Studies and Research Office.

5.2. Faculty Resources

The faculty of the City and Regional Planning Program represent a broad range of interests and expertise.

Gulsah AKAR (M.Sc. Civil Engineering, Middle East Technical University; Ph.D. Civil Engineering, University of Maryland at College Park). Professor and Chair:

Sustainable mobility, Transportation and health, Equity and access, New mobility technologies.

Clio ANDRIS (MS Geography, University of South Carolina; Ph.D. Urban Information Systems, Massachusetts Institute of Technology). Associate Professor:

Urban analytics, Big data, GIS, Social and spatial networks.

Emily BARRETT (M.A. University of Kentucky, and Ph.D., Vanderbilt University). Assistant Professor:

Community-engaged geographic information systems, Economic geography

Ellen BASSET (Ph.D., University of Wisconsin-Madison). Dean of College of Design:

Land use planning & environmental law, Climate change adaptation and mitigation.

Rounaq BASU (MS, MCP, and Ph.D., Massachusetts Institute of Technology). Assistant Professor:

Sustainable cities, Urban analytics, Transportation.

Paige CLAYTON (M.A. & Ph.D., University of North Carolina, Chapel Hill). Associate Professor:

Local and regional economic development, Entrepreneurship, Innovation, Policy.

Mike DOBBINS, FAIA, FAICP (B.A., Yale University). Professor Emeritus:

Urban design policy and implementation.

William J. DRUMMOND (M.Div., Gordon-Conwell; M.Theol., Union Theological; Ph.D., North Carolina). Associate Professor:

GIS, Land use planning, Computer applications in planning, Planning methods.

Michael L. ELLIOTT (Ph.D., Massachusetts Institute of Technology). Professor Emeritus:

Health and environment, Environmental dispute dynamics.

Steven P. FRENCH (Ph.D., University of North Carolina, Chapel Hill). Professor Emeritus:

Sustainable urban development, Earthquake and flood hazard analysis and mitigation, Urban big data.

Alberto FUENTES (MCP & Ph.D., Massachusetts Institute of Technology). Assistant Professor:

International planning, Economic development, Industrial modernization in the global south.

Tony GIARRUSSO (MCP, Georgia Institute of Technology). Professor of Practice:

Geographic Information Science and Technology.

Subhrajit "Subhro" GUHATHAKURTA (MCRP, Iowa State; Ph.D., University of California, Berkeley). Professor:

Urban modeling and GIS, Sustainable cities, Housing markets, Smart cities.

Nancey GREEN LEIGH, FAICP (MRP, North Carolina at Chapel Hill; M.A. in Economics & Ph.D., University of California, Berkeley). Professor Emeritus:

Local economic development planning, Sustainable industrial systems, Sustainable urban and regional development, Brownfield redevelopment.

Yiyi HE (M.L.A & Ph.D., University of California, Berkeley). Assistant Professor:

Urban planning, GIScience, Climate science, Network resilience, Artificial Intelligence.

Gregory RANDOLPH (Ph.D., University of Southern California). Assistant Professor:

Community Economic Development, Global Development.

Catherine ROSS (Ph.D., Cornell University). Professor Emeritus:

Civil infrastructure, Regional planning, Urban revitalization, Emerging technologies, Spatial analysis, Sustainability, Megaregion planning and analytics.

Bruce STIFTEL, FAICP (MRP & Ph.D., University of North Carolina, Chapel Hill). Professor Emeritus:

Planning theory, adaptive governance, client, citizen and interest group participation in the design, evaluation and implementation of plans, land use and environmental planning, planning school performance.

Brian STONE (Master of Environmental Management, Duke University; Ph.D., Georgia Tech). Professor:

Urban environmental management, Climate adaptation planning, Public health.

Perry YANG (M.S., Massachusetts Institute of Technology; Ph.D., National Taiwan University). Associate Professor:

Sustainable cities, Urban simulation and 3-D GIS, Environmental design policy and tools.

5.3. Georgia Tech Resources

The Institute

Founded in 1885, the Georgia School of Technology became the Georgia Institute of Technology in 1948. The first class, made up of mechanical engineers, was held on a campus of five acres. Today, Georgia Tech is an internationally renowned research university. The campus consists of approximately 400 acres of rolling terrain in the heart of Atlanta. Students enroll from every state in the union and eighty countries. Of a total student body of over 47,000 students, more than 26,000 are engaged in graduate studies.

The College of Design

The College of Design at Georgia Tech is one of the largest and oldest architectural and planning schools in the country. Founded in 1908, Architecture was established as a separate college in 1975. Since that time, the College has grown steadily to its present enrollment of approximately 1,000 students. These figures include students enrolled in Architecture, Building Construction, City and Regional Planning, and Industrial Design. The former College of Architecture was renamed the College of Design in 2016.

Library Resources

The **Library and Information Center's** scientific, engineering, architectural, and management collection includes 3.9 million volumes and 2.7 million technical reports, as well as the largest collection of patents in the Southeast. The government documents collection contains over 1.3 million publications and more than 170,000 maps. The library currently receives approximately 12,000 serials, 75 percent of them in scientific and technical fields.

The catalog record of the Library is one of the databases available on the Georgia Tech Electronic Library (GTEL), and is used by faculty, staff, and students through the campus computer network. The Avery index to Architectural Periodicals can also be searched through GTEL. Catalogs from thirteen other libraries in the area may be accessed through GTEL. An electronic resource called GALILEO provides comprehensive access to a number of databases, including dissertation abstracts and the full text of approximately 2,800 academic journals. Library materials from all over the world are available through inter-library loan.

Computer Facilities

Computer facilities are fundamental for most aspects of university education and research.

At the Institute level, the **Office of Information Technology** provides network and mainframe support for campus computing activities. It provides customer support, educational technologies, institute-level information services for registration, accounting, human resources, parking and a variety of expanding services. It also addresses information security for the campus, operations and engineering, and planning and resource management.

Within the College of Design, computing includes PC and/or MAC computer clusters connected by 100 megabit Ethernet and wireless connectivity. Computing is supported by server clusters for email, applications, web services and mass storage.

Additional facilities are provided by the **Interactive Media Architecture Group** (IMAGINE Group), composed of faculty, researchers, and students, works in the area of computer based interactive media. The group focuses on three main areas: the design of interactive media; the application of multimedia to architecture, planning and construction, and industrial design; and the training of students in multimedia technology. Members of the group have played leading roles in projects that include the multimedia presentation of Atlanta's 1996 Olympic Games.

Several PhD Faculty work in collaboration with the **Graphics, Visualization and Usability (GVU) Center**, housed in the College of Computing. The GVU Center is one of the country's premier graphics, visualization and usability centers.

6. CORRESPONDENCE AND INFORMATION

PhD Program Website: www.planning.gatech.edu/phd
For substantive questions about the Program:

Yiyi He, Director
PhD Program
School of City and Regional Planning
College of Design
Georgia Institute of Technology
Atlanta, GA 30332-0155
Telephone: (510) 604-7393
yiyi.he@design.gatech.edu

For administrative questions about admission, matriculation and Institute requirements:

Anna Traykova
Academic Program Manager
School of City and Regional Planning
College of Design
Georgia Institute of Technology
Atlanta, GA 30332-0155
Telephone: (404) 894-2352
anna.traykova@design.gatech.edu

7. APPENDIX A: PROGRAM SYNOPSIS AND MILESTONES

Annually

- ✓ April: End of Year Report submitted by student to PhD Program Director and advisor (see description in this manual)

Course Requirements

Year One:

- ✓ Student refines focus of Major Field, selects **Major advisor**
- ✓ Student identifies Minor Field, including **Minor advisor**
- ✓ With advisor, student develops course of study
- ✓ Advisor helps student obtain financial support for full PhD period (if possible)
- ✓ Advisor provides advice on above and reviews progress

Year Two:

- ✓ Student makes progress on program of study
- ✓ Advisor reviews progress

Completion of Course Requirements:

- ✓ Upon completion of the course requirements, as set forth in this document, the student is to prepare the **list of courses** taken, the allocation of them to the different requirements. All independent study courses used to fulfill these requirements are to be further described with a short description of the work undertaken and the product that resulted from the work. This list is to be reviewed and signed by the student's advisor and submitted to the PhD Program Director.

Comprehensive Examination

- ✓ Students work with Major advisor to organize exams. **Core exams** are scheduled to take place in August. **Major and Minor exams** are scheduled such that the written components of the Core, Major and Minor exams can be completed within 6 weeks.
- ✓ With the Major and Minor advisors, the student prepares a description of the field and bibliography for testing.
- ✓ A Comprehensive Examination Proposal is to be submitted by the student's advisor, giving: (1) a description of the Major and Minor fields and bibliographies for testing, and (2) the members of the Comprehensive Examination Committee, Major advisor, Minor advisor, and external examiner.
- ✓ Examiners prepare questions for the exam. The Core Exam is prepared and reviewed by the instructors of core courses, without oral defense.
- ✓ The Major and Minor Exams are reviewed by the student's primary advisor, a second PhD faculty advisor appointed by the PhD Program Director, and the student's Minor area advisor. This committee also conducts the oral defense of these exams.
- ✓ The Comprehensive Exam can have four outcomes: Pass with Distinction, Pass, No Pass, Fail.

Dissertation Proposal

- ✓ While preparing the dissertation proposal, students may optionally enroll in COA 8999. After thesis approval, students must enroll in COA 9000 while working on the dissertation.
- ✓ The student organizes the Dissertation Advisory Committee consisting of the primary advisor and at least two additional faculty (see text for qualifications) and approved by the advisor.
- ✓ The Dissertation Proposal is a written document, reviewed until endorsed for presentation by the Dissertation Advisory Committee.

- ✓ The Dissertation Proposal is defended within 8 months of completing the Major and Minor comprehensive exams.
- ✓ The Proposal is then presented in a public presentation to the Institute community. The student shall provide the PhD Program Director with advance notice of the colloquium, including title, time and date, advisors, and abstract, at least two weeks before the scheduled colloquium. The School Academic Advisor will forward the announcement to the Georgia Tech community. The colloquium must be open to the Georgia Tech community.
- ✓ Outcomes of the thesis presentation can be: Approval, Approval with minor modifications, Approval with further review, Non-approval.
- ✓ Student submits Georgia Tech PhD Candidacy Form. It includes the names and signatures of the Dissertation Advisory Committee, the dissertation title and abstract, and is attached to a copy of the proposal.

Dissertation Defense

- ✓ A student's Dissertation Examination Committee must consist of at least five members (one of whom must be a Georgia Tech faculty member from outside of the College of Design). Student must be enrolled during the semester when the dissertation is submitted.
- ✓ During the semester preceding the final semester of dissertation work, the candidate must submit a petition for the degree to the Office of Degree Certification.
- ✓ Prior to the dissertation defense, the Examination Committee must approve the dissertation for presentation, submitting a letter of notification. This letter must also identify the additional committee members who will augment the original Dissertation Advisory Committee.
- ✓ A minimum of 14 days is required to schedule a defense (by Institute regulation). The defense must be scheduled during an academic semester (excluding summer) between the first and last days of class. The student and a majority of the members of the Examination Committee (including the Chair and at least one other member of the SCaRP PhD faculty) must be physically present at the defense.
- ✓ At least two weeks prior to the defense, the time and place of the defense shall be announced to the faculty and students of the School of City and Regional Planning, and copies of the dissertation will be made available for general faculty review.
- ✓ The student is to submit to the PhD Program Director appropriate forms, signed by the Dissertation Examination Committee, upon satisfactory completion of the dissertation and defense.

8. APPENDIX B: MINOR FIELD SYNOPSIS FOR MINOR ADVISORS

The minor field requirement is designed to enable the student to apply knowledge from other fields toward theory building and research in city and regional planning. The Minor field must be clearly distinguishable from planning in its intellectual roots. The student is responsible for knowledge at the level of professional competence for the selected Minor field. The focus of the Minor field should therefore be clearly delineated.

Students determine their Minor field of study based on offerings outside the School of City and Regional Planning. No course with a CP prefix or jointly listed as a CP course can be used to satisfy the Minor field requirement.

Examples of Minor Fields

Minors often focus on traditional fields of study associated with other professions. Examples include (but are not limited to):

- urban economics
- transportation engineering
- cultural anthropology

Minors can also provide particular depth in a specific field of inquiry. Examples include (but are not limited to):

- wetlands conservation biology
- environmental valuation

Finally, Minors can focus on a methodological area with a well-developed theoretical and substantive foundation. Examples include (but are not limited to):

- urban and regional modeling
- econometrics
- statistics

The Minor field must be chosen by the student in consultation with the student's Major advisor and approved by the CRP PhD Committee and the Institute's Office of Graduate Studies and Research. Coursework for the Minor should be at the 6000 level or above; however, 4000-level courses may be allowed with permission of the student's advisor.

The Role of the Minor Advisor

Students choose a Minor advisor in the course of fulfilling the Minor requirements. The minor advisor is typically a professor teaching one or more of the minor courses the student chooses to take outside of City and Regional Planning. Students are encouraged to seek advice from their Minor advisor on which courses to take to gain desired

competency in their chosen area. The Minor advisor must be willing to participate in the preparation and evaluation of the student's competency in the minor field during the Comprehensive Examination.

The Minor Field Portion of the Comprehensive Examination

PhD students are tested in three areas: Core, Major field of study, and Minor field of study.

The Minor advisor is one of three members of the Comprehensive Exam Committee. The other two are the Major advisor (who chairs the Comprehensive Exam Process) and the External Examiner.

Comprehensive Exams are offered twice a year in the School of City and Regional Planning: early fall semester and mid-to-late spring semester. The student's Major advisor submits a comprehensive exam proposal to the PhD Program Director at least six weeks before the exam. The proposal is developed by the student under the guidance and approval of the Major advisor (for all aspects of the exam) and the Minor advisor (for the Minor Exam proposal). Included in the proposal is a two-page description of the minor field that: clearly delineates the extent of the field and key questions or issues encompassed therein and contains an extensive bibliography that includes the domain for the examination agreed upon by the student and Minor advisor.

The written components of the Core, Major and Minor Exams are completed within a six-week time. The Major and Minor Exams are administered and evaluated by the student's Comprehensive Examination Committee. The student should pick up, or receive electronically, the Minor field exam at a prescribed time and place and return the completed examination within the allotted time.

The Comprehensive Examination Committee should meet with the student within two weeks of the delivery of the last of the responses. The Examination Committee conducts an oral review with the student for the purpose of clarifying the content of all or part of the responses, exploring ideas presented in those responses, or expanding on ideas or themes suggested by those responses. This oral defense should be scheduled before initiation of the Comprehensive Exams. Following review of the written responses, the Examination Committee may release the student from an oral defense if all three examiners determine that the written exam is of clear and unambiguous high quality.

The examiners responsible for the comprehensive examination confer to determine one of the following outcomes for the examination as a whole.

• Pass with Distinction indicates an exemplary response whereby the student has demonstrated not only mastery of materials, but the capacity to synthesize that material into a compelling argument.

• Pass indicates adequate response; the student has demonstrated not only mastery of

materials, but the capacity to synthesize that material into a thorough discussion.

• No pass with remediation indicates that while the student's responses demonstrate an adequate foundation in an area, the responses show significant weaknesses in the way the student: interpreted the question(s), interpreted or applied the literature or methods of inquiry applicable to the question(s), or otherwise did not offer a compelling argument or thorough discussion.

The examiners, in consultation with the PhD Program Director, determine the appropriate remedial actions short of having the student retake the entire examination. Successful completion of the requirements of the remedial action shall pass the student, while failure to meet the requirements shall constitute a failure of the examination, as described below.

• Fail means that the student has not demonstrated sufficient mastery of material and/or ability to offer a compelling argument or thorough discussion. The student must not only work out a plan for remedial studies with the examiners, in consultation with the PhD Program Director, but retake the portion(s) of the examination that were failed after the satisfactory completion of the remedial studies. If a student fails a second Comprehensive Examination, the student is automatically withdrawn from the PhD Program and cannot be readmitted.

9. APPENDIX C: GEORGIA TECH POLICIES

9.1. Policy on the Advisement of Graduate Student Research

There are two committees which function to advise, approve and conduct the final doctoral oral examination of the thesis and the student's knowledge of the field in which it lies.

The first committee is called the Thesis Advisory Committee or the Thesis Reading Committee and consists of at least three persons, one of whom is the Thesis advisor. This committee approves the research topic, provides advice and guidance during the research and is charged with approving the thesis when the research is completed and presented as the doctoral thesis. When the Thesis Advisory Committee considers the thesis to be satisfactory, a recommendation is made to the Dean of the Graduate Division for the appointment of the second committee, which is called the Final Doctoral Examination Committee, and it consists of at least five individuals.

The Thesis Advisory Committee consists of at least three members satisfying the following: (1) the thesis advisor shall be a member of the Academic Faculty (with approval of the school or college Graduate Committee, an adjunct[1] faculty member appointed for the specific purpose of advising graduate students may serve as the thesis advisor); (2) the majority of committee members shall be members of the Academic Faculty. The Committee is approved by the Graduate Committee in the School or College, recommended by the School Director through the College Dean, and appointed by the Dean of the Graduate Division.

The Final Doctoral Examination Committee, which consists of at least five persons, always contains the Thesis Advisory Committee members and others as appropriate, who are recommended by the school or college to the Dean of the Graduate Division for approval. At least one member of the Final Doctoral Examination Committee must be from the academic faculty of a School (or College) which is distinct from the unit in which the student is enrolled.

It is recognized that some Schools and Colleges may wish to appoint a Thesis Advisory Committee which consists of five or more persons and to recommend this committee to serve as the Final Doctoral Examination Committee. Where the constraints outlined above are met for both committees, this is permissible.

9.2. Policy on Publication of Theses

A policy of the Georgia Institute of Technology is that Doctoral and Master's Theses are openly published. Extraordinary delays are not to be allowed to protect proprietary interests of sponsors.

[1] "adjunct" does not indicate formal appointment, but rather appointment as indicated in this policy statement.

It is anticipated that all Ph.D. theses and a significant fraction of master's theses be published in the open, refereed literature.

In all cases, doctoral research should meet the "Guidelines for Ph.D. Dissertation Research", and in no situation should these be compromised to allow for concealing important research results because of security classification or a sponsor's proprietary interest.

A student may routinely elect to have publication of his or her thesis withheld for a period of one year, if recommended by the student's thesis advisor. Requests for extensions beyond one year must be justified and approved by the Dean of Graduate Studies and Research.

A Georgia Tech doctoral dissertation in its final form may not be used or have been used to meet the requirements for a separate degree at another institution.

9.3. Guidelines for Ph.D. Dissertation Research

1. The research should provide a useful educational experience for the student emphasizing creativity, independent action and learning, research methodology, and scholarly approach.
2. The research must be relevant to the field in which the student is pursuing a degree.
3. The contributions to knowledge must be original and as such, should represent a substantial addition to the fundamental knowledge of the field or a new and better interpretation of facts already known. The research must demonstrate creativity. Dissertations based on well-known principles, techniques, and models applied to situations only somewhat different from previous applications are not acceptable.
4. The dissertation should contain clear statements about (a) the relevance and importance of the problem and (b) the significance, originality, and generality of the research results. The relationship of the research to the literature of the field should be described.
5. The research should possess the major characteristics of the scientific method, namely objectivity and reproducibility. Assumptions should be clearly stated in both experimental and theoretical research.
6. The dissertation should reflect a level of competence indicative of significant achievement beyond the master's level. Thus, the research is expected to draw directly upon advanced learning in the student's major field and demonstrate mastery of that knowledge.
7. The dissertation must demonstrate understanding of the theory and methodology related to its main thrust. Further the dissertation should reflect knowledge of the application area.
8. The research should result in at least one paper publishable in a suitable refereed journal of engineering, science, management or architecture, as appropriate.

9. The dissertation should demonstrate a high degree of proficiency in written communication of research results. It should conform to the Institute's requirements as outlined in the Office of Graduate Studies and Research "Manual for the Preparation of Graduate Dissertations and Thesis".
10. The scope of the research should be such that it requires at least the time and effort equivalent to one year of full-time graduate study.

10. APPENDIX D: GOVERNANCE OF PHD PROGRAM

Overall responsibility for the PhD in City and Regional Planning rests with the School of City and Regional Planning faculty. Day-to-day management and oversight are provided by the PhD Program Director and the PhD Committee. Final decisions of policy rest with the SCaRP faculty.

The PhD Program Director is a SCaRP faculty member who serves to:

- promote and advocate for planning PhD field development and resources,
- develop strategies for outreach and strategic communications,
- coordinate the curriculum, program requirements, and student advisement process,
- maintain and update the student manual and other products of the PhD Committee,
- chair the PhD Committee,
- coordinate admissions and general advisement to PhD students, and
- promote the development and general welfare of the PhD Program.

The SCaRP faculty created the PhD Committee to develop and promote excellence in the PhD Program and to manage its day-to-day operations. The PhD Committee consists of three faculty and one PhD student. Committee membership consists of the PhD Program Director, who serves as the committee's chair, and two other faculty, who serve two-year staggered terms. A student representative is elected by the SCaRP doctoral students for one-year terms. Faculty and student members may serve multiple terms.

The PhD Committee members serve to:

- evaluate and enhance the quality of PhD studies in City and Regional Planning,
- propose policy for SCaRP faculty review,
- review and approve advisement committees and waivers from program requirements, and
- promote the general welfare of the program.