College of Emergency Preparedness, Homeland Security and Cybersecurity

University at Albany, SUNY

Information Science Ph.D. Manual

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All information in this manual is subject to change.
Please contact the Ph.D. Program Director for updated information.

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Chapter 1

Welcome to the Information Science Ph.D. Program

The University at Albany's doctoral program in Information Science is a unique interdisciplinary research program in which faculty and students study a wide variety of disciplines related to information and its use by individuals and organizations. Our research community includes approximately 50 faculty and 35 doctoral students engaged in a wide range of activities aimed at understanding the impact that information technologies and policies have on today's society, and at building an effective information infrastructure for tomorrow's world.

Our program is unique in several respects. In today's information-intensive world, it is not enough just to understand technology in order to build effective information systems. Our curriculum emphasizes a multidisciplinary perspective to approaching problems. This emphasis begins with five core courses that are taught by faculty from different disciplines across the campus. It continues throughout the curriculum, with an emphasis on early and active multidisciplinary research.

This focus on applied research helps prepare students for both academic and professional careers, as evidenced by the number of its graduates who are researchers in policy and management positions in government, consulting, education, and industry—careers that benefit from the research perspective that our doctoral program offers.

The prominence of applied interdisciplinary work is reflected in the diversity of the faculty members and research centers that participate in the program. Each program faculty member is also a member of one of the University's traditional academic and research units, or is a scholar-practitioner working in the government or the corporate sector, committed to interdisciplinary research through participation in the program. This cadre of dedicated faculty has helped create an exciting environment in which to study, explore, and create.

This manual can be found on the CEHC website at https://www.albany.edu/cehc/programs/resources-students under the Resources for Doctoral Students section. However, the definitive document for university policies and procedures is the University at Albany Graduate Bulletin, which can be found at http://www.albany.edu/graduatebulletin/. The purpose of this manual is to assist students as they make the transition into this program. This is not a policy book: it is not a legal contract. Rather, it is a guide and thus will help students navigate the opportunities and the procedures while studying and working within the program.

Admission Requirements

Applicants to the Information Science Ph.D. Program must satisfy the general University requirements for admission to doctoral study described in the *Graduate Bulletin* at http://www.albany.edu/graduatebulletin/admission_graduate_requirements.htm. Admission to this program is highly selective and is based on an assessment of the applicant's potential to make a major contribution to theory and practice in Information Science.

New doctoral students are typically admitted only for the fall semester. Candidates should have a substantial background of previous academic work, preferably at the graduate level, in a discipline concerned with perception, evaluation and manipulation of information, and should possess appropriate analytic skills.

Academic preparation should include college-level mathematics, inferential statistics, research methodologies, fundamentals of the policy-making process, and organizational theory and behavior, as well as computer and information literacy. International applicants are usually expected to hold a degree from a U.S. university.

The doctoral Admissions Committee seeks evidence of motivation, energy, and commitment to the discipline; academic achievement sufficient to promise success at the doctoral level; strong oral and written communication skills; and an adequate level of technical ability.

While the program is open to those who hold the baccalaureate degree, preference is given to candidates who have completed a master's degree in information science, computer science, communication, geography and planning, public administration, business, management information systems, information management, accounting, criminal justice, library science, or a related field.

Applicants must submit official transcripts for all prior undergraduate and graduate coursework and scores from the General Test of the Graduate Record Examination (GRE), the Graduate Management Admissions Test (GMAT), or the Law School Admissions Test (LSAT). Applicants whose native language is not English must also submit scores on the Test of English as a Foreign Language (TOEFL) examination. Note that TOEFL scores are valid for two years after the test date. Three letters of recommendation are required, at least one of which should speak to the candidate's academic abilities. For candidates with substantial work experience in the information field, one or more letters from current or former supervisors or co-workers are appropriate.

Candidates are encouraged to submit additional documentation, such as a curriculum vitae, a portfolio of previous work, publications, reports, research papers, or examples of work such as computer systems, programs or other materials that might be helpful to the Admissions Committee in assessing capacity for doctoral study and independent research.

Admission Timetable

Application for doctoral admission must be received by **January 15**. In addition to coordinating the review and decision-making process for each applicant, services are available at the Office of Graduate Admissions to assist students who desire clarification or more detailed information about programs and admission standards. Individual discussions with faculty from any of the program's schools can also be arranged.

Information concerning admissions policies and processes can be found at the University's Office of Graduate Admission. For further information or an application packet, please contact:

Office of Graduate Admissions
The University at Albany
1400 Washington Avenue
Albany, New York 12222
Phone: 800-440-GRAD or 518-442-5200
Email: graduate@albany.edu
http://www.albany.edu/graduate/graduate-admissions.php

Graduate Assistantships and Financial Aid

To help defray the costs of higher education, the doctoral program offers a limited number of assistantships to graduate students. Assistantships carrying stipends plus a full or partial tuition scholarship are awarded to qualified students who perform teaching, research, or administrative duties, up to a maximum of three years of University support. Applicants whose native language is not English need a combined TOEFL score of at least 100 to be eligible for consideration of a graduate assistantship,

University-wide scholarships are also available. More information may be obtained from the Office of Graduate Admissions or the University at Albany Foundation.

Financial assistance may also be provided from external grants and contracts received each year by the Program faculty and staff. This type of funding is generally associated with a significant research project or training program.

To be considered for financial assistance, students must apply for financial assistance and the other awards (assistantships, fellowships, and scholarships) when applying for admission using the assistantship/fellowship application form.

Financial aid other than assistantships and fellowships is available through state and federal programs. Information on these programs may be obtained from the Office of Graduate Admissions or on their web site at http://www.albany.edu/graduate/funding-graduate-study.php.

Forms

The forms required throughout the doctoral program are located in the CEHC Student Resources OneDrive folder. Forms are periodically updated so students should make sure they are using the most recent versions before submitting for approvals.

Chapter 2

The Ph.D. Program

The interdisciplinary doctoral program is designed for people who are interested in advanced study and applied research in the nature of information as a phenomenon, and in the character of the information transfer process, including the creation of new knowledge, the use of what is known, and the dissemination of knowledge in both conventional and electronic formats. Emphasizing research, teaching, and the application of research findings to professional practice, the program is built on the model of the scientist-practitioner. It prepares graduates for both academic and research careers in information science or related disciplines, and for higher-level management and policy positions in private and public sector organizations.

Information science draws upon and integrates theory and application from several diverse disciplines. At Albany, the INF Ph.D. Program is a collaborative activity of the College of Emergency Preparedness, Homeland Security and Cybersecurity, the School of Business, the College of Arts and Sciences, the College of Engineering and Applied Sciences, the Rockefeller College of Public Affairs and Policy, the School of Education, and research faculty from several disciplines and centers across the University.

Program of Study

The INF Ph.D. Program consists of five major components:

Core interdisciplinary courses	1. CINF 720, 721, 722, 723, 724 2. Successful completion of comprehensive exam
Research sequence	1. CINF 710, 711, 712, 713, 714; 2. Participation in annual research conference; 3. Additional research tool
Technology competencies	CINF 523, or equivalent; waiver available
Primary and Secondary specialization areas	1. Determined with faculty program chair and committee; 18 credit minimum for primary specialization; 2. Literature review 3. Primary specialization publishable paper
Doctoral dissertation	Successful defense of dissertation proposal and defense of dissertation

The university requires a minimum of 60 credits beyond the baccalaureate, plus at least one additional year devoted to researching and writing a dissertation. Applicants who have completed graduate courses or programs may be admitted with advanced standing and be allowed a maximum of 30 credits for courses applicable to the Ph.D.

Courses and research requirements are designed to provide the successful candidate with a firm grounding in the social and technical impacts of information creation, use, dissemination, and storage. Development of an appreciation and understanding of the interdisciplinary nature of information research is also emphasized.

Each student will develop an individualized program of study to meet these requirements under the advisement of the Program Director and the student's Program Guidance Committee.

Program Director

The Program Director administers program policies, oversees student progress, and manages the program with the assistance of the Manager of Graduate Studies. The Program Director teaches the seminar sequence INF 711-714 during the academic year. The Program Director also serves as the Faculty representative for many activities.

Program Guidance Committee

Each doctoral student is advised regarding his or her academic program by a Program Guidance Committee. The student forms this committee during the first year of study. The Program Guidance Committee represents the Program Faculty in overseeing the content of the student's program and in monitoring the student's progress up to the point of admission to degree candidacy. The Program Guidance Committee is responsible through its Chair for:

- reviewing and approving the student's proposed program plan;
- assessing the quality and content of the student's prior academic preparation;
- advising the student of appropriate courses to correct any academic deficiencies and to fulfill requirements;
- supporting the proposed primary and secondary specializations;
- overseeing the qualifying requirements;
- monitoring the student's academic progress; and
- Certifying the student for admission to degree candidacy upon satisfactory completion of all pre-dissertation requirements.

Composition

The student's Program Guidance Committee consists of at least three faculty members, two of whom must be members of the Ph.D. Program Faculty. The Program Guidance Committee must include representatives of at least two of the departments or schools that co-sponsor the INF Ph.D. program. The Program Guidance Committee must also include faculty members associated with both the student's primary and secondary areas of specialization.

Timing of Appointment

Full-time and part-time students must form their Program Guidance Committee and the Committee must approve their proposed Program Plan by the end of their second semester in the first year.

Continuing Advisement and Review

Members of the student's Program Guidance Committee are available to provide advice and guidance up to the point of the student's admission to degree candidacy when advisement becomes the responsibility of the Dissertation Committee. Members of a student's Program Guidance Committee may, at the student's option, also be invited to serve as members of his or her Dissertation Committee. The Program Guidance Committee conducts a review of the student's progress at least annually and advises the Program Faculty on the student's progress toward the degree. The Program Guidance Committee may require the student to revise or modify his or her academic Program Plan at any time prior to admission to degree candidacy. Student may propose changes to their program plan at any time, subject to the approval of the Program Guidance Committee. All amended Program Plans must be

approved by the Program Director. Signed Program Plans must be filed with the Information Science Office in a timely manner.

Academic Standards

Doctoral students must earn an average of B or better in all resident graduate courses and credits applicable to their degree, and remain in good academic standing during the course of their study.

According to the University at Albany's Graduate Bulletin:

> Unless more rigorous performance standards are otherwise required by a particular program, graduate students who are candidates for a graduate degree or certificate must earn an average of B in all resident graduate courses and credits applicable to their degree completed with grades other than S (satisfactory) or U (unsatisfactory) and receive grades of S in all resident graduate courses applicable to their degree which may be graded S/U.

> Only courses completed with grades of A, B, C, or S may be applied to graduate course requirements and to credit requirements for graduate degrees.

http://www.albany.edu/graduatebulletin/requirements_degree.htm

Advanced Standing

Students who have completed graduate courses or programs elsewhere may apply for admission with advanced standing and be allowed a maximum of 30 credits for courses applicable to a doctorate. This maximum also applies to previously-completed graduate programs at the University at Albany. There is an Application for Advanced Standing form that must be completed and submitted with transcripts. Granting of advanced standing is also governed by the Graduate Office regulations regarding transfer of credit: *Regulations Governing the Transfer of Credit to a Graduate Program*

http://www.albany.edu/graduatebulletin/requirements_degree.htm#regulations_transfer.

Academic Probation

A student in the Ph.D. Program is placed on Academic Probation if (s)he

- does not have a Program of Study approved and signed by the end of the second semester of study, or
- has a grade of I that has not been cleared within one year, or
- has failed the General Comprehensive examination once.

Conditions (1) and (2) will be suspended for students on a Leave of Absence.

A letter from the Program Director or Department will notify a student's Chair (cc: to Program or Dissertation Committee chair, as appropriate) that (s)he has been placed on Academic Probation listing the specific steps s(he) needs to rescind such academic probation. The student may appeal Academic Probation decisions to the Ph.D. Faculty.

Removal of the Academic Probation status is the responsibility of the student. The chair of the student's Program Guidance Committee must notify the Director and Assistant Dean in writing when the conditions of Academic Probation have been fulfilled. The Director of the Ph.D. program will then notify the student in writing of the change in his/her Academic Probation status. He also will inform the Ph.D. faculty at its next meeting of such change in the student's status.

Academic Probation status of students is normally resolved each semester. Students who have not resolved their Academic Probation status within a year will be reviewed for dismissal from the Ph.D. Program.

Continuous Registration of Doctoral Students

All students enrolled in doctoral programs must maintain continuous registration for each fall and spring session (except for periods of official leave of absence prior to candidacy) until they have completed all program requirements. Minimum registration consists of 3 credits of approved course work, registration for dissertation load (899 courses only), or registration for other fieldwork courses that have been approved as full-time by the Dean of The Graduate School or the Graduate Academic Council.

Doctoral students in full-time study register for 9 or more credits each fall and spring semester. Students who hold a full assistantship are expected to be enrolled in 9 credits, or be registered for one dissertation load credit after being admitted to candidacy. Summer session registration cannot be accepted in lieu of registration for fall and spring sessions.

Statute of Limitations

University regulations state:

- All requirements for a doctoral degree must be completed within eight calendar years from the date of initial registration in the program.
- These statutes apply equally to students who enter with or without advanced standing and to students who formally change their areas of specialization after admission and study in one advanced program.

Leave of Absence

Doctoral students are eligible to apply for a leave of absence prior to reaching doctoral candidacy and/or registering for dissertation credits. A leave of up to one year may be proposed for an appropriate academic or personal reason and is subject to approval by the Program Guidance Committee Chair, Program Director, and Graduate Office. The period of authorized leave of absence is not counted as part of the statute of limitations for completion of degree requirements. Students who are on leave of absence are not entitled to use University facilities.

Students must request either to withdraw from the program or request a leave of absence within one semester of failing to register for classes toward the INF Ph.D.

Requirements for Admission to Candidacy

Students apply for admission to degree candidacy after successful completion of all prerequisites and core courses with at least a B average, primary and secondary specialization requirements, publishable paper requirement, literature review requirement, comprehensive examination, and residency requirement. Admission to degree candidacy occurs only with the approval of the Dean of The Graduate School acting upon recommendations of the Graduate Academic Council, and the Program Director. Only upon admission to candidacy can a student register for doctoral dissertation load credit (CINF 899). The requirements for admission to candidacy are listed below. A student is admitted to Candidacy upon completion of the requirements and submission of the Admission to Candidacy form.

1. Completion of an Approved Program of Study

In consultation with the Program Guidance Committee Chair, the student files an official Program Plan of Study to outline the planned course of study for the degree. The Program Plan must be completed and signed by the student, the Program Guidance Committee, and the Ph.D. Program Director. Students

return the completed and signed form to the Department of Information Science office. Course changes to the approved Program Plan may be requested by submitting an amendment.

The Program Plan includes:

- Tentative dates for completion of core courses, courses in support of primary and secondary specializations, the comprehensive examination, literature review, and peer-reviewed publication or conference presentation for the primary specialization. Students should include a plan and schedule for fulfilling the full-time residency requirement of two regular semesters (see 2. Completion of Full-Time Study in Residence).
- Courses and/or waiver for meeting technology competencies prerequisite (see 4. Demonstration of Technology Competencies).
- Tentative dates for completion of research sequence components (see 6. Completion of the Research Sequence).
- Lists of graduate courses completed prior to matriculation (see Advanced Standing) and graduate courses to be completed while in the Program in support of the proposed primary and secondary specializations. Alternate courses should be specified in the event that first choice courses are not available.
- Coursework previously completed (see Advanced Standing), coursework to be completed, or other experience that the student proposes to take.
- Tentative area or topic for dissertation research.

2. Completion of Full-Time Study in Residence

Each student in a doctoral program must engage in full-time study beyond the master's degree or equivalent at the University in at least two semesters after admission to the program. This requirement is designed to insure for each doctoral student a sustained period of intensive intellectual growth. For this purpose, a student will enroll in full-time study taken in each of two academic-year semesters (24 credits total), or in an academic-year semester (12 credits) and a summer session (9 credits), not necessarily consecutive, which must be completed satisfactorily.

Graduate assistants holding a full assistantship may meet the residency requirement by completing one academic year in such a position, including the satisfactory completion of a minimum of 9 registered credits each semester plus satisfactory completion of assigned duties.

3. Successful Fulfillment of All Qualifying Requirements

The INF Ph.D. Program requires each student to meet a series of qualifying requirements by the end of the second semester. The qualifying requirements include:

- a formal review of academic achievement during the first two semesters by the student's Program Guidance Committee Chair, concentrating on both the quality of performance in classes and the timeliness of this performance,
- a formal agreement (Program Plan of Study form) about the scope and content of the student's proposed academic program, including the student's primary and secondary areas of specialization, submitted at the end of the second semester.

4. Demonstration of Technology Competencies

All INF Ph.D. students are required to show competency in four areas of computer and information technologies: networking, web applications, programming languages, and databases. Students are required to take one to four eight-week modules of CINF 523 Fundamentals of Information Technology

to meet this requirement or an alternate path as set forth by the INF Ph.D. faculty. There are options to waive out of this requirement. (See Ways to Meet the CINF 523 Requirement.)

5. Successful Completion of All Core Course Work

The five core courses are designed to introduce students to the process of scholarly investigation, as well as to present major research themes, issues, and methods of analysis that are most pertinent to the field of information science. In some cases, guest lecturers or other means are used to provide alternative views on a subject. Successful completion of all core courses is required of all INF Ph.D. students. Courses are offered on a set cycle and students are expected to take the sequence as it is presented. Scheduling of classes is subject to faculty and room availability.

The objectives of the courses are to:

- Enable doctoral students to achieve the scope and level of mastery of information science and of relevant portions of the supporting disciplines.
- Introduce doctoral students to the seminal literature, principal research themes, major researchers, and major research centers in Information Science.
- Introduce doctoral students to the process of scholarly investigation in information science in its interdisciplinary dimensions, facilitating their progress toward independent research for the dissertation.

Collectively, the five core courses give an introduction to information science, helping the student's transition from an operations orientation to an applied research orientation, from the practitioner role to the scholar-practitioner role. The core courses also provide the substance for the general comprehensive exam. These courses **must be** completed before the student can take the comprehensive exam.

The five required courses, which constitute the "five core courses" and provide an interdisciplinary unifying foundation for subsequent graduate study, are:

CINF 720 Managing Information and Technology in Organizations (2 credits)

This course will introduce information systems research paradigms grounded in organization theory and provide a framework for applying theoretical concepts and empirical tools to the management of information and technology in organizations.

CINF 721 Information and Society (2 credits)

Relationships between information and communication technologies (ICTs) and social action; how social and organizational factors influence information processes and systems; and how the use of ICTs influences our (changing) understanding and experience of dealing with information.

CINF 722 Information Organization (2 credits)

Text analysis for information extraction, organization of information for knowledge sharing, and visualization of information to support users' diverse cognitive styles.

CINF 723 Information and Computing (2 credits)

Development of theories and concepts that underlie the operation of information processing and retrieval systems, consequences derived from these theories that should be considered in designing such systems, theoretical foundations of information and computation, technologies and application areas.

CINF 724 Information Policy (2 credits)

National and international information policy development trends, processes, and conflicts; policy, law, and culture; information economics, industries, and trade; policies of information commodities (e.g., intellectual property, privacy).

6. Completion of the Research Sequence

The research sequence is intended to expose INF Ph.D. students to core information science research through becoming familiar with information science literature, developing a research plan, actively participating in research with faculty member(s), presenting research through poster session(s) and presentation(s), and developing research method and analysis skills. It consists of four major components:

1. Four one-credit Research Seminar Sequence courses;
2. Attendance at and participation in the NTIR Annual INF Research Conference;
3. CINF 710 Research Design in Information Science course or approved substitute by each specialization and;
4. An Additional Research Tool Requirement.

Successful completion of all research sequence courses and requirements is required of all INF Ph.D. students. Scheduling of classes is subject to faculty and room availability.

Research Seminar Sequence

A four-semester sequence of 1-credit research seminars (INF 711, INF 712, INF 713, and INF 714) will facilitate an understanding of information science literature and research, and development of students' research agendas. Taken for the first four semesters in sequence, students will interact with faculty while learning about their current research; begin to use and evaluate information science literature; learn research techniques, such as writing a literature review, maintaining a bibliographic database, presenting a poster session and presenting current research at a conference; and develop research relationships with faculty and other students.

Annual INF Research Conference

All INF Ph.D. students are required to attend the annual INF Research Conference: New Trends in Informatics Research (NTIR). First year students plan and coordinate the conference, while also presenting at the poster session. Second year students present their current research, potentially with a faculty member. Third year and later students are encouraged to present their current research. This INF Research Conference develops a research community while offering opportunities for students to learn about research being done by other faculty and students in Information Science, and to hone their own research and presentation skills.

CINF 710 Research Design in Information Science

All INF Ph.D. students are required to take the 4-credit INF 710 research methods course. Students will examine research issues in information science at an advanced level, focusing on appropriate research design, data gathering techniques and analysis relating to data collection and measurement. Students will explore the research design process from both qualitative and quantitative points of view. (Please note that each specialization may provide substitutes for this course.)

Additional Research Tool Requirement

University regulations state that all students must take at least one statistics/analysis course at the doctoral level. Each specialization may provide a set of approved courses to fulfill this requirement.

Students should work with their Program Guidance Committee Chair to find the best fit. This course may be chosen from those offered throughout the university, selected to be specific to their field of concentration. Although the requirement is for a quantitative course, students are strongly urged to take additional quantitative and qualitative courses to round out their research analysis skills. (See Courses in Research Design, Data Collection and Data Analysis (not in INF) for a list of possible courses. Please note, however, that not all of these classes fulfill the University Research Tool Requirement and they are not all available to INF Ph.D. students every semester. You should consult your Program Guidance Committee Chair, the Program Director, and the faculty member teaching the class for additional details.)

7. Successful Completion of Primary Specialization Course Work

Primary specializations are listed below in the Specializations section of this manual. Normally, each primary specialization requires a minimum of 18 credits made up of required and elective courses. Students should work with their Program Guidance Committee and the faculty within specific specializations to clarify the necessary course work. Additional requirements may be part of individual specializations. (See 11. Acceptance of the Primary Specialization Publishable Paper for formal evaluation criteria.)

8. Successful Completion of Secondary Specialization Course Work

The secondary specialization is intended to broaden the student's knowledge of information science and to provide additional research experience. Secondary specializations are normally attained by taking three of the required and/or elective courses within the specialization descriptions. Students should work with their Program Guidance Committee and the faculty within specific specializations to clarify the necessary course work. There is no formal evaluation of the secondary specialization. Students must successfully complete at least three courses in their secondary specialization. There is a Fulfillment of Secondary Specialization form that must be signed by the Program Guidance Committee member who represents the secondary specialization.

It is possible for students to create a self-designed secondary specialization with approval of the INF Ph.D. faculty. The students must petition the Self-designed specialization committee of the Information Science Ph.D. Program for approval of such specializations. It is essential that such petitions demonstrate:

- that they have support from a faculty mentor who will present the proposal to the INF Ph.D. Program faculty as a whole,
- that there is faculty expertise in their proposed area on campus, and
- that their specialization proposal complements their overall program plan and works within the information science field.

9. Passing the General Comprehensive Examination

The general comprehensive exam will be administered after the five core courses are successfully completed. An incomplete in any core course will prevent the student from being able to take the comprehensive exam. The typical exam is a take-home that consists of one question selected from a set prepared in advance by the faculty. Evaluation is done by the INF Ph.D. Program faculty.

10. Acceptance of the Literature Review

The literature review is a bibliographic essay organized around a current topic in information science and supported by a bibliographic search of citations around the selected topic. Typically, the approved literature review is part of a large project such as an independent piece of research with a faculty member, a paper leading to publication in a peer-reviewed journal, a research proposal being submitted to a board

or a national foundation, or other significant independent research. Evaluation is done by two INF Ph.D. faculty members selected by the student, and approved by the student's Program Guidance Committee Chair. The Program Guidance Committee Chair cannot evaluate the literature review. It is expected that the student completes the Literature Review requirement near the end of the fourth semester.

11. Acceptance of the Primary Specialization Publishable Paper

Normally, each primary specialization requires one paper of publishable quality. To meet the publication requirement students must get the approval of their Program Guidance Committee for:

- a paper published (single or joint authorship) in a peer-reviewed journal, or
- a paper accepted for presentation and publication in a peer-reviewed conference (note that this must be a paper and not an abstract), or
- a research paper submitted to the specialization committee chair for review by a designated committee of faculty within that specialization. This is not the preferred method of meeting this requirement and may be revised upon further notice.

Students should confer with their Program Guidance Committee and the faculty committee representing a particular specialization on any additional evaluation materials required.

Doctoral Dissertation

The completion of a dissertation is expected to demonstrate that the candidate is capable of doing independent scholarly work and is able to formulate conclusions which may in some respects modify or enlarge what has previously been known.

Detailed guidelines and procedures governing the Ph.D. dissertation at the University at Albany are listed on the The Graduate School web page: http://www.albany.edu/graduate/dissertation-thesis-submission.php.

Any dissertation that involves human or animal subjects must be approved by the University's Institutional Review Board. Copies of University guidelines for such approval are available from the Office of Research Compliance web site at http://www.albany.edu/orrc/irb-forms.php. Students and their primary faculty research mentor must complete and have an up-to-date certificate from the UA Office of Research Compliance certifying that they have passed the appropriate human subjects review course required by the University.

Students who are starting their dissertation should note that some individuals may choose to impose an embargo upon releasing their manuscript to UMI Dissertation Abstracts due to algorithms, processes, or products that they wish to intellectually protect for a set period of time. Please discuss such issues with your dissertation chair well in advance of graduation.

The doctoral dissertation is subject to the general regulations outlined in the current Graduate Bulletin of the University.

Dissertations that have been approved must be transmitted to the Dean of The Graduate School by May 1 for degrees to be conferred in May, by August 1 for degrees to be conferred in August, and by December 1 for degrees to be conferred in December. Students must apply for graduation in the semester in which they expect to graduate.

Dissertation Committee

Students should begin identifying their dissertation committee early in their program. This process can begin with discussions with Program Guidance Committee members. The first formal step that the student must take in the dissertation process is to form a Dissertation Committee. The Dissertation

Committee advises and guides the student throughout the process of dissertation planning and completion. The Dissertation Committee assesses the acceptability of dissertation proposals and dissertation drafts presented by the student. It is the student's responsibility to keep the Dissertation Committee Chair informed of all progress.

The Dissertation Committee must consist of at least three members, least two of which are members of the INF Ph.D. Program faculty. In addition, the University faculty members of the Committee must be from at least two different schools, departments, or disciplines. The Dissertation Committee Chair must be a University faculty member. All dissertation committee members must either have a Ph.D. and/or hold full-time professorship. The Dissertation Committee is nominated by the student and appointed by the Ph.D. Program Director. Students should complete the Dissertation Committee Composition form to formalize this process, and the Dissertation Committee must be approved by the Program Director.

Dissertation Proposal

The presentation and defense of a dissertation proposal is required as part of completing a dissertation. The written proposal should detail the research methods and techniques to be used in conducting the dissertation topic. It also should address the relevance of the dissertation topic to the field of information science, describe the conceptual and research content in which the proposed study is located, specify the originality or uniqueness of the proposal, and review, in bibliographic form, the research and other literature relevant to the topic.

When the committee determines that the proposal is ready for defense, the candidate will schedule the defense, which includes arranging for the date and location. At least two weeks prior to the proposal defense (or at least three weeks prior for a summer defense), the candidate must deliver a paper or electronic (pdf) copy of the proposal to the Director and to the Information Science Office. The Director or the Information Science Department staff will announce the defense date and venue to the Ph.D. Program faculty and students. If a defense must be rescheduled, there must also be a two-week (summer three-week) announcement period. All INF Ph.D. Program faculty are eligible to vote at proposal defenses. After successful defense of the dissertation proposal, the Approval of Dissertation Proposal form must be completed.

Degree Application

A student nearing completion of the dissertation must file a Recommendation for the Conferral of the Doctoral Degree form with The Graduate School and the Registrar during the session in which the degree is expected.

Degree applications are filed online through the MyUAlbany web portal and must be filed before the deadline established for each graduation conferral—either May, August, or December of each year (see the University calendar for the session in question). If a degree is not awarded, a new application must be filed during registration for the session in which the degree award is expected.

Dissertation Defense

The dissertation is the culmination of the program of advanced study leading to a doctoral degree. It is expected that the dissertation is written in an accepted scholarly style, investigates a problem of significance, and makes a unique contribution to the field of study. It must demonstrate independent research and analysis, scholarly reporting, and a high degree of scholarly competence. The dissertation defense cannot take place in the same semester as the dissertation proposal defense.

The doctoral candidate is responsible for scheduling the defense with his or her Dissertation Committee, which includes arranging for the date and location of the defense. At least two weeks prior to the defense (three weeks for a summer defense), the candidate must submit a paper or electronic (pdf) copy of the

dissertation to the Director and the Information Science Department office. The Director or the Information Science Department staff will announce the defense date and venue to the Ph.D. Program faculty and students. If a defense must be rescheduled, there must be a two-week (summer three-week) announcement period. Proposal defenses are scheduled for fall, spring, and summer while classes are in session. Only the dissertation committee faculty are eligible to vote at dissertation defenses. Proposal defense and dissertation defense may not take place in the same semester.

After the defense and any necessary revisions are complete, the Dissertation Chair informs the Information Science Department office that the dissertation has been successfully completed. The successful candidate should complete and submit the Dissertation Approval form and the Recommendation for the Conferral of the Doctoral Degree form. Additional University at Albany requirements regarding the publication of the dissertation are available on The Graduate School web site at http://www.albany.edu/graduate/dissertation-thesis-submission.php.

Normal Progress through the Ph.D. Program

The following table demonstrates the normal progress of a full-time student through the program. Part-time students should consult with the Program Director for an adjusted schedule.

Program Component	1st Fall (INF 711)	1st Spring (INF 712)	2nd Fall (INF 713)	2nd Year (INF 710)	2nd Spring (INF 714)	3rd Fall	3rd Spring	Beyond
Advanced Standing		*Complete*						
Approve Program Plan of Study	*First draft done*	*Complete & Submitted*						
Full Time Residency	Half Way	Complete						
INF 523		*Complete*						
Core Course Work					*Complete*			
Research Sequence					*Complete*			
Primary Specialization Courses	*Select Primary Specialization Advisor*	*Courses & Advisor selected*				*Complete*		
Secondary Specialization Courses	*Select Secondary Specialization Advisor*	*Program & Advisor selected*				*Complete*		
Comprehensive Exam						*Complete*		
Literature Review	*Initial bibliography*		*Proposal accepted by faculty*		*Full Lit Review submitted*	Approved by Field		
Publishable Paper			*Proposal accepted by faculty*		*Full draft submitted*	Approved by Field		
Spring Research Conference	*Organize into conference teams*	*Put on the conference*	*Hand-Off to new students*		*Present paper @ conference*			

Program Component	1st Fall	1st Spring	2nd Fall	2nd Year	2nd Spring	3rd Fall	3rd Spring	Beyond
Other Specialization Exams/ Requirements						*Complete*		
Admission to Candidacy						*Complete*		
Appointment dissertation committee							*Complete*	
Proposal defense							*Complete*	
Dissertation Defense								*Complete*

Specializations

Students must complete two individualized sequences of courses, practica, and supervised research in a primary and secondary area of advanced specialization. Currently approved areas of advanced specialization are Data Analytics (DA), Geographic Information Science (GIS), Information Assurance (IA), Information, Government, and Democratic Society (IGDS), Information in Organizational Environments (IOE), and Knowledge Organization and Management (KOM). If the students' interests do not match with one of these specializations, it is possible for them to create a self-designed primary specialization with approval of the INF Ph.D. faculty. The former specialization – Information Technology and Learning (ITL) - may be selected if the INF Ph.D. faculty approves. The students must petition the Self-designed specialization committee of the Information Science Ph.D. Program for approval of such specializations. It is essential that such petitions demonstrate:

- that they have support from a faculty mentor who will present the proposal to the faculty as a whole,
- that there is faculty expertise in their proposed area on campus, and
- that their specialization proposal complements their overall program plan and
- works within the information science field.

Opportunities for self-designed specializations are described below.

The primary specialization is pursued in greater depth and is ordinarily related to the proposed area of dissertation research. The secondary specialization is intended to broaden the student's knowledge and to provide additional research experience.

Students should work with their Program Guidance Committee in selecting a set of specialization courses and other experiences. The courses listed below are intended to be illustrative rather than exhaustive or required.

Data Analytics (DA)

Applying mathematical models and empirical data to solve complex problems is not new. However, new approaches made possible by advances in technologies, analytical tools and techniques and in the applications of data analytics to complex social problems have enabled a broader understanding of causes and effects of strategic and policy problems using a broad breadth of modeling and analytical techniques. Advances in modeling and visualization techniques have made it possible to gain new insights into the importance of policy makers and other stakeholders in using models, data and other technical tools to analyze problems and policy alternatives. Understanding the massive amounts of data emanating from a

complex world requires tools that bridge across technical aspects of computer science, conceptual issues related to human cognition, and questions of how users focus their attention and make sense of complex data. At the heart of this concentration are theories and perspectives about how data are structured into information and made actionable, and how action in turn creates new data. This concentration is designed to provide deep knowledge in the tools and techniques needed for research in this field.

Faculty:

Brandon Behlendorf, College of Emergency Preparedness, Homeland Security and Cybersecurity
George Berg, College of Emergency Preparedness, Homeland Security and Cybersecurity
Shobha Chengalur-Smith, School of Business
Stephen Coulthart, College of Emergency Preparedness, Homeland Security and Cybersecurity
Jagdish Gangolly, Professor Emeritus
Norman Gervais, College of Emergency Preparedness, Homeland Security and Cybersecurity
Samuel Jackson, College of Emergency Preparedness, Homeland Security and Cybersecurity
Shiguo Jiang, College of Arts and Sciences
Kate Lawson, College of Arts and Sciences
Luis Luna-Reyes, Rockefeller College
Terry Merz, College of Emergency Preparedness, Homeland Security and Cybersecurity
Neil Murray, Professor Emeritus
Eliot Rich, School of Business
Abebe Rorissa, College of Emergency Preparedness, Homeland Security and Cybersecurity
Kinsum Tam, School of Business
Giri Tayi, School of Business
Michael Young, College of Emergency Preparedness, Homeland Security and Cybersecurity

Courses

AGOG 525 Remote Sensing Applications (3 credits)
AGOG 529 Spatial Statistics (3 credits)
AGOG 584 Remote Sensing I (3 credits)
AGOG 585 Remote Sensing II (3 credits)
AGOG 593 Topics in Image Analysis (3 credits)
BITM 603 – Business Analytics and Data Mining (3 credits)
BITM 604 Databases and Business Intelligence (3 credits)
CINF 528 Analysis, Visualization, and Prediction in Analytics (3 credits)
CINF 551 Bayesian Data Analysis and Signal Processing (3 credits)
CINF 625 Data Mining (3 credits)
CINF 626 Big Data and Stream Analysis (3 credits)
ICSI 508 Database Systems I (3 credits)
ICSI 531 Data Mining (3 credits)
ICSI 550 Information Retrieval (3 credits)
RPAD 524 Systems Thinking and Strategy Development (4 credits)
RPAD/BITM 624 Business Dynamics: Simulation Modeling for Decision-Making (4 credits)
RPAD 637 Social and Organizational Networks in Public Policy, Management, and Service Delivery: Theory, Methods, and Analysis (4 credits)
RPAD 724 Simulation for Policy Analysis and Design (4 credits)
RPAD 777 Advanced Topics in Social Network Analysis (4 credits)
RPAD 824 Advanced Topics in System Dynamics (4 credits)

Geographic Information Science (GIS)

Geographic Information Science encompasses the predominant tools for performing spatial analysis and for augmenting spatial decision making across a broad array of application domains. Practitioners representing fields as diverse as criminal justice, atmospheric science, sociology, public health, and many others require a common theoretical underpinning in the fundamental models and methods of analysis embodied in current systems. To that end, the specialization in Geographic Information Science focuses on the theoretical foundation of spatial data representation, analysis, and visualization as well as on its broad spectrum of applications. The specialization directly supports interests in the geosciences and social sciences, as well as in the theory and implementation of geographic information system design.

Faculty:

Brandon Behlendorf, College of Emergency Preparedness, Homeland Security and Cybersecurity
Norman Gervais, College of Emergency Preparedness, Homeland Security and Cybersecurity
Shiguo Jiang, College of Arts and Sciences
Kate Lawson, College of Arts and Sciences
James Mower, College of Arts and Sciences

Primary Specialization

Specialization Courses (9 credits):

AGOG 500 Development of Geographic Thought (3 credits)
AGOG 596 (APLN 556) Introduction to Geographic Information Systems (3 credits)
AGOG 692 (APLN 656) Seminar in Geographic Information Systems (3 credits)

Elective Courses (at least 12 credits):

AGOG 502 (APLN 504) Statistical Methods in Geography (3 credits)
AGOG 527 Human Factors in Geographic Information Science (3 credits)
AGOG 555 (APLN 503) Computer Applications (3 credits)
AGOG 579 Principles of Applied Global Positioning Systems (3 credits)
AGOG 584 Graduate Introduction to Remote Sensing (2 credits)
AGOG 585 Digital Image Analysis (3 credits)
AGOG 590 Advanced Cartography (3 credits)
AGOG 596 Geographic Information Systems (3 credits)
AGOG 597 Advanced GISAGOG 598 (APLN 558) Geographic Information Systems Management (3 credits)
AGOG 680 Seminar in Geography (3 credits)
AGOG 695 Graduate Internship in Geography (3 credits)
AGOG 697 Independent Study in Geography (1-4 credits)
APLN 544 Urban and Metropolitan Transportation Planning (3 credits)
RCRJ 693 GIS in Criminal Justice (4 credits)
RCRJ 696 GIS in Criminal Justice (4 credits)

Secondary Specialization

The GIS secondary specialization consists of the following three courses with the consent of an advisor from the GIS field:

AGOG 500 Development of Geographic Thought (3 credits)
AGOG 596 (APLN 556) Introduction to Geographic Information Systems (3 credits)

AGOG 692 (APLN 656) Seminar in Geographic Information Systems (3 credits)

Information Assurance (IA)

Information is the most critical asset of most organizations. Information Assurance deals with the study of information from the point of view of confidentiality, integrity, and availability. Information Assurance is an interdisciplinary field involving diverse areas including computer science, business, accounting, finance, criminal justice, mathematics, engineering, psychology, criminal justice, sociology, and public policy. Some of the research topics of interest to the Information Assurance faculty at Albany include intrusion detection, computer crime, cryptography, steganography, security risk analysis, security policies, specification/verification, security auditing, and economies of cybersecurity. The students can take a diverse set of courses to prepare them for research in the field of Information Assurance and they need to get appropriate training through their course work to help them in their research. The program allows for a large number of electives for the students to choose in consultation with their academic advisor. The program also specifies certain background courses that are necessary to educate the students for research in information assurance. The requirement for IA as a primary specialization is 21 credits. If the students can waive some of the background courses they should take additional courses from the IA electives specified below to complete 21 credits in the specialization.

Faculty:

Brandon Behlendorf, College of Emergency Preparedness, Homeland Security and Cybersecurity
George Berg, College of Emergency Preparedness, Homeland Security and Cybersecurity
Shobha Chengalur-Smith, School of Business
Stephen Coulthart, College of Emergency Preparedness, Homeland Security and Cybersecurity
Catherine Lawson, College of Arts and Sciences
Amir Masoumzadeh, College of Engineering and Applied Sciences
Terry Merz, College of Emergency Preparedness, Homeland Security and Cybersecurity
Neil Murray, Professor Emeritus
Brian Nussbaum, College of Emergency Preparedness, Homeland Security and Cybersecurity
David Rousseau, College of Emergency Preparedness, Homeland Security and Cybersecurity
Kinsum Tam, School of Business
Unal Tatar, College of Emergency Preparedness, Homeland Security and Cybersecurity
David Turetsky, College of Emergency Preparedness, Homeland Security and Cybersecurity
Benjamin Yankson, College of Emergency Preparedness, Homeland Security and Cybersecurity
Michal Young, College of Emergency Preparedness, Homeland Security and Cybersecurity
Xiaojun (Jenny) Yuan, College of Emergency Preparedness, Homeland Security and Cybersecurity

Primary Specialization

Specialization Courses (21 credits):

Information assurance is an interdisciplinary field enriched by the interaction of fields such as computer science, business, information technology, accounting, criminal justice, public administration, education, sociology, and psychology. The Information Assurance specialization provides the students considerable freedom in selecting courses. There are four cognate areas that are necessary for students to undertake the Information Assurance specialization, namely, Information Systems, Networks, Databases, and Statistics. The students are required to take one 3 (or 4) credit graduate level course in each of these four areas. In addition, to fulfill the requirements for the primary specialization, in consultation with their advisor, students are required to take three graduate elective courses from a list

of courses listed further below. The background courses can be waived if they demonstrate equivalent knowledge through other equivalent course work. The determination would be made by any IA concentration member and approved by a designated point of contact in the IA concentration.

Background Courses (Each area must be covered)

1) Information Systems: (3-4 credits)

BITM 601 Business Systems Analysis and Design (3 credits) **OR**
ICSI 518 Software Engineering (4 credits)

2) Networks: (3 credits)

BITM 604 Communications, Networking & Computer Security (3 credits) **OR**
ICSI 516 Computer Communications Networks I (3 credits)

3) Databases: (3 credits)

ICSI 508 Database Systems I (3 credits) **OR**
Equivalent Graduate Course Work

4) Statistics: (3-4 credits)

AMAT 565 Applied Statistics (3 credits) **OR**
APSY 511 Statistics and Experimental Methods II (4 credits) **OR**ASOC 522 Intermediate Statistics (3 credits) **OR**
ASOC 622 Selected Topics in Multivariate Analysis (3 credits) **OR**
BACC 522 Statistical Analysis for Business Decisions (3 credits) **OR**
EPSY 630 Statistical Methods II (3 credits) **OR** RCRJ 687 Statistical Techniques in Criminal Justice Research II (3 credits) **OR**
RSSW 687 Statistics and Data Analysis II (4 credits) **OR**

Electives (9 credits):
BACC 661 Auditing of Advanced Accounting Systems (3 credits)
BITM 640 Information Security Risk Assessments (1-3 credits) or BITM 641 Security Policies (1-3 credits)
BITM 642 Computer Forensics (1-3 credits) or BITM 643 Incident Handling (1-3 credits)
BITM 645 Psychology & Information Security (3 credits)
CEHC 545 Principles & Practices of Cybersecurity (3 credits)
CEHC 549 Cyber Security: Long Term Planning and Risk Management (3 credits)
CEHC 569 Cyber Threats and Intelligence (4 credits)
CINF 552 Computer and Network Security (3 credits)
CINF 553 Information Security & Privacy (3 credits)
CINF 554 Human Aspects of Cybersecurity (3 credits)
CINF 555 Prevention and Protection Strategies in Cybersecurity (3 credits)
ICSI 531 Data Mining (3 credits)
ICSI 5xx Operating Systems (3 credits)
ICSI 524 Information Security (3 credits)
ICSI 526 Cryptography (3 credits)
ICSI 550 Information Retrieval (3 credits)

ICSI 616 Computer Communication Networks II (3 credits) Secondary Specialization

The secondary specialization is primarily based on their understanding of the specific area of information assurance. For details regarding requirements for a secondary specialization, please contact one of the IA faculty members.

Information, Government, and Democratic Society (IGDS)

This concentration focuses on the role, use, influence, and consequences of information and ICTs (information and communication technologies) in government and democratic society. Researchers in this area study how people interact with government, public institutions, political associations, and other citizens through ICTs, focusing on the social and political impacts of technology-enabled discourse. Researchers also study the information management and public communication policies and practices of government, as well as governmental use of information and technology to provide services, impose requirements, and monitor the activities of individuals and groups.

Faculty:

Brandon Behlendorf, College of Emergency Preparedness, Homeland Security and Cybersecurity
Philip Eppard, College of Emergency Preparedness, Homeland Security and Cybersecurity
Mila Gascò, Rockefeller College
J. Ramon Gil-Garcia, Rockefeller College
Teresa Harrison, College of Arts and Sciences
Samuel Jackson, College of Emergency Preparedness, Homeland Security and Cybersecurity
Rey Koslowski, Rockefeller College
Luis Lunas-Reyes, Rockefeller College
Theresa Pardo, Center for Technology in Government
Abebe Rorissa, College of Emergency Preparedness, Homeland Security and Cybersecurity
Eric Stern, College of Emergency Preparedness, Homeland Security and Cybersecurity
Giri Tayi, School of Business
David Turetsky, College of Emergency Preparedness, Homeland Security and Cybersecurity

Primary Specialization

Specialization Courses (10 credits):

RPAD 550 Foundations of Government Information Strategy and Management (4 credits)
ACOM 520 Theories and Research in Political Communication (3 credits)
CIST 560 Information and Public Policy (3 credits)

Elective Courses (any 3 courses required):

ACOM 503 Message Design and Social Influence (3 credits)
ACOM 625 Media Effects in and Political Communication (3 credits)
ACOM 626 Campaign Communication (3 credits)
ACOM 635 Topics in Political Communication (3 credits)
CEHC 555 Disaster, Crisis, and Emergency Management and Policy (4 credits)
CEHC 572 Disaster and Crisis Management in Public, Private, and Nonprofit Sectors (4 credits)
CINF 659 Technology and Contemporary Organizational Life (3 credits)
CIST 614 Administration of Information Agencies (3 credits)
CIST 615 Advanced Seminar in Information Policy and Management (3 credits)

RCRJ 695 Responsible Use of Criminal Justice Information (3 credits)
RINT 523 International Development Policy (4 credits)
RPAD 522 Politics and Policy (4 credits)
RPAD 561 Urban Community Development (3-4 credits)
RPAD 562 Plan Implementation and Development Management (3-4 credits)
RPAD 567 Local Economic Development Strategies and Techniques (3-4 credits)
RPAD 570 Comparative Digital Government (4 credits)
RPAD 610 Organizational Theory and Behavior (4 credits)
RPAD 615 Strategic Planning (4 credits)
RPAD 624 Simulating Dynamic Systems (4 credits)
RPAD 637 Social and Organizational Networks in Public Policy, Management and
Service Delivery (4 credits)
RPAD 650 Enabling Innovation in the Public Sector (4 credits)
RPAD 652 Leading Transformative Digital World (4 credits)
RPAD 724 Simulation for Policy Analysis & Design (3-6 credits)
RPAD 824 Advanced Topics in System Dynamics (1-6 credits)
RPOS 527 American Constitutional Law: Civil Liberties (4 credits)
RPOS 529 Law and Public Policy (4 credits)
RPOS 543 Science, Technology and Public Policy (4 credits)
RPOS 583 International Law and Organization (4 credits)
RPOS 718 Seminar in Government, Politics, and the Mass Media (4 credits)
RPOS 765 Media and the Courts (4 credits)

Secondary Specialization

The following 3 courses are recommended for a secondary specialization:

RPAD 550 Foundations of Government Information Strategy and Management (4 credits)
ACOM 520 Theories and Research in Political Communication (3 credits)
CIST 560 Information and Public Policy (3 credits)

Appropriate courses from departments and colleges such as Communication, History, Sociology, Business, and Computer Science and Information can substitute for the above after consultation with advisor.

Information in Organizational Environments (IOE)

Contemporary organizations are built as webs of information exchange and flow. The study of information in these organizational environments requires a multidisciplinary approach. This approach draws its knowledge, theories, and methods from a host of social sciences including information and communication studies, sociology, psychology; and business, education, and public administration. The field is typically divided into two domains: micro- and macro-organizational studies. Micro-organizational studies focus on organizational behavior at the level of individual and group. Macro-organizational studies focus on organization behavior at the level of the organization and its environment. Students taking this specialization should have some familiarity with both of these domains. There are three tracks from which students can choose: (1) General organizational studies, (2) Micro-organizational studies, or (3) Macro-organizational studies.

Faculty:

Shobha Chengalur-Smith, School of Business
Carol Anne Germain, College of Emergency Preparedness, Homeland Security and Cybersecurity
Jennifer Goodall, College of Emergency Preparedness, Homeland Security and Cybersecurity
Teresa Harrison, College of Arts and Sciences
Archana Krishnan, College of Arts and Sciences
Theresa Pardo, Center for Technology in Government
Eric Stern, College of Emergency Preparedness, Homeland Security and Cybersecurity
Jeannette Sutton, College of Emergency Preparedness, Homeland Security and Cybersecurity
Ray Van Ness, School of Business
Xiaojun (Jenny) Yuan, College of Emergency Preparedness, Homeland Security and Cybersecurity

Primary Specialization

This specialization draws primarily upon existing courses in the Departments of Communication, Psychology, Sociology, Educational Administration, Management, and Public Administration and Policy. As a primary specialization, it is expected that students take at least 24 credits in courses that include a range of perspectives on organizational studies from the micro to the macro level.

Specialization Courses:

Track 1 - General Organizational Studies: suggested minimum of 2 courses each in micro- and macro-organizational studies

Track 2 - Micro-Organizational Studies: a suggested minimum of 3 courses in micro-organizational studies and at least one course in macro-organizational studies

Track 3 - Macro-organizational Studies: a suggested minimum of 3 courses in macro-organizational studies and at least one course in micro-organizational studies

Micro-Organizational Studies: Courses in this area are primarily concerned with perceptions, values, motivations, and behaviors of individuals and groups. Examples of typical courses offered in this area are:

APSY 641 Survey of Organizational Psychology (3 credits)
APSY 668 Group Dynamics (3 credits)
APSY 765 Interpersonal Relations and Group Processes (3 credits)
ASOC 549 Social Psychology (3 credits)
ASOC 555 Social Interaction Processes (3 credits)
RPAD 632 Group Dynamics in Organization (4 credits)
RPAD 633 Organizational Analysis and Development (4 credits)
BMGT 602 Managing Productivity and Quality of Work Life (3 credits)
BMGT 740 Seminar in Work Motivation (3 credits)
BMGT 750 Seminar in Leadership and Managerial Skills (3 credits)

Macro-Organizational Studies: Courses in this area are primarily concerned with strategies and structures, normative and cultural systems within organizations, relationships between organizations and their environments, and processes of organizational formation, transformation, and decline. Examples of typical courses offered in this area are:

ASOC 654 Complex Organizations and Bureaucracy (3 credits)
ASOC 666 Selected Topics in Sociology (3 credits)

RPAD 615 Strategic Planning and Management (4 credits)
RPAD 690 Regulatory Administration (4 credits)
RPAD 737 Contemporary Organization Theory (4 credits)
BMGT 675 Creativity and Entrepreneurship (3 credits)
BMGT 682 Strategic Management (3 credits)
BMGT 782 Seminar in Strategic Management (3 credits)

In addition, the following courses are considered appropriate for either Micro- or Macro- Organizational Studies:

RPAD 636 Cultural Analysis of Organization (4 credits)
RPAD 637 Social and Organizational Networks (4 credits)
RPAD 708 Organizational Behavior and Theory (4 credits)
RPAD 727 Seminar in Research Methodology and Management Science (4 credits)

Secondary Specialization

As a secondary specialization, students should take at least three courses (9-12 credits) with at least one micro- and one macro-organizational studies course.

Information Technology and Learning (ITL)

This specialization may not be offered. Please contact Professors Robert Bangert-Drowns, Jennifer Goodall, or Joette Stefl-Mabry with questions.

Knowledge Organization and Management (KOM)

This specialization covers all aspects of knowledge representation, organization, management and retrieval for information/knowledge in all formats and their use. Substantive areas include classification & categorization structures to represent knowledge, models of indexing & classification systems to aid in the construction of dictionaries & thesauri, models to facilitate visualization and retrieval of information. More specifically, the topical areas include ontologies, concept organization, information retrieval, vocabulary management, metadata structures, visual representations, information behavior, relevance and evaluation.

Faculty:

Stephen Coulthart, College of Emergency Preparedness, Homeland Security and Cybersecurity
Philip B. Eppard, College of Emergency Preparedness, Homeland Security and Cybersecurity
Jagdish Gangolly, Professor Emeritus
Hemalata Iyer, College of Emergency Preparedness, Homeland Security and Cybersecurity
Archana Krishnan, College of Arts and Sciences
Paul Miesing, School of Business
Abebe Rorissa, College of Emergency Preparedness, Homeland Security and Cybersecurity
Donghee Sinn, College of Emergency Preparedness, Homeland Security and Cybersecurity
Ray Van Ness, School of Business
Xiaojun (Jenny) Yuan, College of Emergency Preparedness, Homeland Security and Cybersecurity

Primary Specialization

Required specialization courses (6 credits):

CIST 602 Information and Knowledge Organization (3 credits)
Either ICSI 550 or CIST 533 Information Storage and Retrieval (3 credits)

Suggested additional courses (15 or more credits):

ALIN 521 Introduction to Syntactic Theory (3-4 credits)
APHI 531 Logic and Philosophy (4 credits; unclear when last offered)
APHI 515 Philosophy of Language (4 credits)
CINF 551 (CSI 551/PHY 551) Bayesian Data Analysis and Signal Processing (3 credits)
CINF 659 Technology & Contemporary Organizational Life (3 credits)
CINF 766 Topics in Information Science (1-3 credits--as appropriate)
CSCI 6100 Machine and Computational Learning (this course is offered by RPI)
ICSI 530 Intro to Mathematical Logic (3 credits)
ICSI 531 Data Mining (3 credits)
ICSI 636 Natural Language Processing
CIST 603 Information Processing (3 credits)
CIST 660 Archival Representation (3 credits)
CIST 666 Current Problems in Information Science (as appropriate) (3 credits)

AND other courses that the student and his/her program advisement committee deem are appropriate to the students proposed areas of study, research and interest.

Secondary Specialization

Please contact KOM faculty for details on appropriate courses that complement primary specializations.

Self-Designed Primary Specializations

It is possible for a student to create a self-designed primary specialization with approval of the INF Ph.D. faculty. The INF Ph.D. Program Director cannot give approval without approval of the faculty through an appointed faculty committee on self-designed specializations. It is essential that the student can demonstrate that:

- he or she has support from at least two faculty members who will present the proposal to the faculty as a whole and act as Program Guidance Committee Chair and member,
- there is faculty expertise in the proposed area on campus and a commitment by these faculty to work with the student, and
- the proposed specialization complements the student's overall program plan and tentative dissertation plan and works within the information science field.

Proposal and Approval Process

- Student must write a rationale for their desired self-designed primary specialization and explain why current program-defined specializations are not adequate options.
- Student must provide a proposal of courses to take/graduate credits to apply from previous coursework to support the proposed self-designed primary specialization. Primary specializations

should have 21-24 credits. Please note that at least 12 credits of a self-designed primary specialization should be taken while enrolled in the INF Ph.D. program.

- Student must identify at least one research tool course he or she intends to take in support of the self-designed primary specialization. A research methods course will not fulfill this requirement.
- Student must have at least two University at Albany faculty members (one of whom must be part of the INF Ph.D. faculty) approve this rationale and proposal in writing. One of these faculty members must act as Program Guidance Committee Chair.
- The Program Guidance Committee Chair should present the rationale and proposal to an appointed faculty committee on self-designed specializations. The Program Guidance Committee Chair should also provide a copy of the rationale and proposal to the Program Director for review, but not approval. The appointed faculty committee on self-designed specializations must approve the request in order for the student to pursue that specialization.
- Self-designed primary specializations must be certified complete by the student's Program Guidance Committee just as program-designed specializations are. When primary specialization coursework is completed, the student must submit a paper of publishable quality to their Program Guidance Committee for certification that the requirement has been completed. The student's Program Guidance Committee may decide to include an additional requirement to certify completion of the self-designed primary specialization. This would be included in the student's original rationale and proposal.

Chapter 3

Faculty, Courses, and Support

Faculty

A complete list of CEHC faculty can be found at www.albany.edu/cehc/faculty

Gary Ackerman, Associate Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: Terrorism, threat assessment, adversary behavior modeling, red-teaming, extremist ideologies, biological/chemical/radiological weapons, emerging technologies

Phone: 518-442-5251   Email: gackerman@albany.edu

Robert L. Bangert-Drowns, Associate Professor, Educational Theory and Practice

Research interests: Meta-analytic and literature review methodology, instructional design for computer-based instruction, higher-order thinking and literacy

Phone: 518-442-4988   Email: rbangert-drowns@albany.edu

Brandon Behlendorf, Assistant Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: Illicit traffic networks, violent victimization across the Life Course, geospatial dynamics of conflicts and their effects on individuals, international/comparative criminology, quantitative and mathematical modeling of violence, policing

Phone: 518-4425782   Email: bbehlendorf@albany.edu

DeeDee Bennett, Associate Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: Emergency management, socially vulnerable populations during disasters, emergency communications, disaster policy, mobile wireless communications

Phone: 518-588-0775   Email: dmbennett@albany.edu

George Berg, Associate Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: Machine learning, computational biology, natural language processing

Phone: 518-442-4267   Email: berg@cs.albany.edu

Peter Brandon, Professor, Sociology

Research Interests: Welfare and social policy, family change and diversity, evaluation methods

Phone: 518-442-4695   Email: pbrandon@albany.edu

Indushobha Chengalur-Smith, Professor, Information Systems and Business Analytics

Research interests: Decision-making, information quality, and technology implementation, open source software, security policy

Phone: 518-956-8315   Email: Shobha@albany.edu

Suraj Commuri, Associate Professor, Marketing

Research interests: Consumer joint decision-making

Phone: 518-227-0303   Email: scommuri@albany.edu

Philip B. Eppard, Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: Archives, records administration, preservation management, electronic records, history of recorded information

Phone: 518-442-5119   Email: pbe40@albany.edu

Ingrid Fisher, Associate Professor, Accounting and Law

Research interests: Information retrieval, automatic thesaurus construction, information semantics, assurance in business information systems

Phone: 518-956-8365   Email: i.fisher@albany.edu

Mila Gascò, Research Associate Professor, Public Administration; Associate Research Director, Center for Technology in Government

Research Interests: Information and technology in government, electronic and open government, e-governance, public sector innovation, smart cities, and public policy evaluation.

Phone: 518-442-3794   Email: mgasco@ctg.albany.edu

Norman Gervais, Lecturer, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research Interests: Remote sensing, ecological modeling, GIS applications, vegetation phenology

Phone: 518-956-8246   Email: ngervais@albany.edu

J. Ramon Gil-Garcia, Associate Professor, Public Administration; Research Director, Center for Technology in Government

Research Interests: Collaborative electronic government, inter-organizational information integration, smart cities and smart governments, adoption and implementation of emergent technologies, information technologies and organizations, digital divide policies, and multi-method research approaches

Phone: 518-442-3892   Email: jgil-garcia@ctg.albany.edu

Sanjay Goel, Professor, Information Security and Digital Forensics

Research interests: Application of information technology in business and engineering applications, computer networking and network security (including cryptography and public key infrastructure), network-based distributed computation and availability of services

Phone: 518-956-8323   Email: goel@albany.edu

Jennifer Goodall, Vice Dean, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: Women in computing, computing education, organizational culture

Phone: 518-442-5351   Email: jgoodall@albany.edu

Alex Greer, Associate Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: Hazard adjustments, relocation decision-making processes, organizational culture

Phone: 518-949-4713   Email: agreer@albany.edu

Robert Griffin, Dean, Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: EHC, Internet of Things (IOT), sports violence and stadium security, American federalism, state/local governance

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Teresa M. Harrison, O'Leary Professor, Communication

Research and teaching interests: Computer-mediated communication, community applications of new technologies, technology and democracy, digital government, community networking, geographic information systems, urban communication, communication theory, organizational communication.

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Lenore Horowitz, Professor of Practice, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: Online pedagogy, use of open content in education, online higher education curricula structure, mixed methods research approaches

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Matthew C. Ingram, Associate Professor, Political Science

Research Interest: Justice sector reforms, judicial behavior, and violence in Latin America

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Hemalata Iyer, Associate Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: Information organization, visual resource management, access issues for variable media resources, vocabulary management, metadata, classification theory, user behavior, information services to virtual users

Phone: 518-442-5116   Email: hiyer@albany.edu

Samuel Jackson, Assistant Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: Political extremism, terrorism, and political violence; computational social science; social movements; political identity and nationalism; social media.

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Shiguo Jiang, Assistant Professor, Geography and Planning

Research interests: Remote sensing, GIS, and spatial statistics, land use land cover change, climate change and environmental modeling, vegetation ecology, terrestrial carbon cycle

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Kevin Knuth, Associate Professor, Physics

Research interests: Inductive inference and inquiry, source separation of mixed signals, information processing in the brain, identification of relevant causal interactions, astrobiology, intelligent instruments, and robotics

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Rey Koslowski, Professor, Political Science

Research interests: International relations dealing with international organization, European integration, international migration, information technology, homeland security

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Archana Krishnan, Assistant Professor, Communication

Research interests: Computer-mediated communication, health communication and mHealth, mobile communications, digital and social media, scale development and validation, media effects

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Catherine Lawson, Associate Professor, Geography and Planning; Director, Lewis Mumford Center for Comparative Urban and Regional Research

Research interests: Travel behavior, freight, archived intelligent transportation systems data, community development, housing issues, land use, transportation planning, and spatial analysis/geographic information system applications

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Luis Luna-Reyes, Associate Professor, Public Administration and Policy

Research Interests: Dynamic modeling and simulation of socio-technical systems, particularly those related to the implementation and use of Information and Communication Technologies to improve public management and public policy.

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Erika Martin, Associate Professor, Public Administration and Policy; and Director of Health Policy Studies, Nelson A. Rockefeller Institute of Government

Research Interests: Public Health Policy, Policy Analysis

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Amir Masoumzadeh, Assistant Professor, Computer Science

Research Interests: Information security and privacy, including access control policy models and privacy-preserving data sharing in application domains such as social media and location-based services

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Terry Merz, Visiting Assistant Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

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Paul Miesing, Professor, Management

Research interests: Strategic vision, organizational change and transformation, technology transfer, business and education use of information technology

Phone: 518-956-8348   Email: paul.miesing@albany.edu

James Mower, Associate Professor, Geography and Planning

Research interests: Automated cartography, geographic information system, application of real-time perspective viewing models, applications of parallel computing

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Ray Van Ness, Visiting Assistant Professor, Management

Research Interests: International business and the impact of culture, boards of directors and financial performance, influence of boards of directors on corporate strategy

Phone: 518-956-8344   Email: rvanness@albany.edu

Saggi Nevo, Associate Professor, Information Technology Management

Research interests: Business value of information technology, information technology strategy, technology post-adoption, diffusion of innovations, social computing

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Brian Nussbaum, Assistant Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: Terrorism and counterterrorism, homeland security, cyber threats, infrastructure protection, intelligence analysis and risk assessment, state and local homeland security

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Theresa A. Pardo, Research Professor, Public Administration and Policy; Director, Center for Technology in Government

Research interests: Information technology innovation in the public sector, cross-boundary collaboration and information sharing, preservation of government records in digital form, return on investment analysis for public sector IT.

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Samantha Penta, Assistant Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: Disaster relief, health and medical issues in disasters, decision-making in preparedness and response, humanitarian logistics.

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Eliot Rich, Associate Professor, Information Systems and Business Analytics

Research interests: Simulation, software systems, knowledge management, information and infrastructure security

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Abebe Rorissa, Associate Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: multimedia information organization and retrieval, measurement and scaling of users' information need and their perceptions of multimedia information sources and services, use/acceptance/adoption/impact of information and communication technologies

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David Rousseau, Associate Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: Military conflict, shared identity, political development, foreign policy

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Peter Shea, Associate Provost for Online Education; Associate Professor, Educational Theory and Practice/Information Science

Research interests: Student and faculty experience in technology-mediated teaching and learning, teaching presence, community in asynchronous learning networks

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Amber Silver, Assistant Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: decision-making surrounding high-impact weather events, social media and new technology influence in warning response

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Donghee Sinn, Associate Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: archives, archival research in history, archival use/user studies, personal archiving in the web environment, archiving web contents, digital archiving of cultural artifacts, archives and public memory, and public memory in relation to Asian cultures and heritages

Phone: 518-442-4522 Email: dsinn@albany.edu

Joette Stefl-Mabry, Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity, Affiliate Associate Research Professor, School of Education

Research interests: Educational assessment and evaluation, reflective practice, the effects of collaboration on teacher and student learners and teacher's professional practice

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James Steiner, Public Service Professor, Rockefeller College of Public Affairs & Policy

Research interests: Intelligence in homeland security

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Eric Stern, Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: Crisis and emergency management, crisis communication, resilience, security studies, executive leadership, organizational sense-making, organizational decision-making, organizational learning, foreign policy analysis, political psychology.

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Jeannette Sutton, Associate Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: disaster and risk communications, information and communication technology, social media and mobile devices for disaster preparedness, response, and recovery

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Kinsum Tam, Associate Professor, Accounting and Law

Research interests: XML, markup languages, computerized content analysis of corporate text documents, database internal controls, and application of Internet technologies

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Unal Tatar, Assistant Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: Cybersecurity risk and resiliency, economics of cybersecurity, cyber insurance, supply chain cybersecurity, incident response, critical infrastructure protection, block chain, cybersecurity education

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Giri Kumar Tayi, Professor, Information Systems and Business Analytics

Research interests: Data communications and communications networks, information economics and policy, quantitative models for policy analysis

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David Turetsky, Professor of Practice, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: cybersecurity policy and regulation, public-private partnerships, information sharing national security policy, elections, emergency communications, wireless emergency alerts, network reliability and resilience, FirstNet

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Fan Yang, Assistant Professor, Communication

Research interests: psychology of communication technology, strategic communication, new media and decision-making, social media, public relations, and advertising in health/science communications, big data analytics

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Michael Young, Professor of Practice, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: Role of beliefs in policy decision making in homeland security, international relations, text analysis

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Xiaojun (Jenny) Yuan, Associate Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity

Research interests: Information-seeking behavior, information retrieval, user interface design and evaluation, information visualization, usability testing, human-computer interaction, digital libraries

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INF Ph.D. Courses

CINF 523 Fundamentals of Information Technology (1 credit for each module, 4 credits total) A university-wide offering that introduces fundamentals of information technology in an intensive graduate format. The course focuses on selected topics such as database applications, introduction to programming, web technologies, and Unix and networking that are offered in the fall as one credit modules, each lasting for half a semester.

CINF 710 Research Design in Information Science (4 credits) Students will examine research issues in information science at an advanced level, focusing on appropriate research design, data gathering techniques and analysis relating to data collection and measurement. Students will explore the research design process from both qualitative and quantitative points of view. Offered in the spring only.

CINF 711 Research Seminar I (1 credit) This course is offered every fall for all first- semester students. The course meets once a week to hear presentations by faculty about their current research. In addition, research skills are developed, such as evaluation of information science literature, how to write a literature review, how to plan and use bibliographic software, and how to do a poster session at a conference. Offered in the fall only.

CINF 712 Research Seminar II (1 credit) This course is offered every spring for all second- semester students. This course meets weekly during the semester to plan and coordinate the INF Research Conference while also developing posters to present at the Research Conference. Students develop their research agenda by completing their INF Program Plan. Prerequisite: CINF 711. Offered in the spring only.

CINF 713 Research Seminar III (1 credit) This course is offered every fall for all third- semester students. This course meets weekly to hear presentations by faculty about their current research. Students develop research relationships with faculty to continue their own research. Prerequisite: CINF 711 and CINF 712. Offered in the fall only.

CINF 714 Research Seminar IV (1 credit) This course is offered every spring for all fourth-semester students. This course meets weekly during the semester to guide students' independent research. Students present their research with a faculty member at the INF Research Conference. Prerequisite: CINF 711, CINF 712 and CINF 713. Offered in the spring only.

CINF 720 Managing Information and Technology in Organizations (2 credits) This course will introduce information systems research paradigms grounded in organization theory and provide a framework for applying theoretical concepts and empirical tools to the management of information and technology in organizations. Offered in alternating fall semester only.

CINF 721 Information and Society (2 credits) Relationships between information and communication technologies and social action; how social and organizational factors influence processes and systems, and how the use of ICTs influence our (changing) understanding and experience of dealing with information. Offered in alternating spring semester only.

CINF 722 Information Organization (2 credits) Text analysis for information extraction, organization of information for knowledge sharing, and visualization of information to support users' diverse cognitive styles. Offered in alternating fall semester only.

CINF 723 Information and Computing (2 credits) Development of theories and concepts that underlie the operation of information processing and retrieval systems; consequences derived from these theories that should be considered in designing such systems; theoretical foundations of information and computation; technologies and application areas. Offered in alternating spring semester only.

CINF 724 Information Policy (2 credits) National and international information policy development trends, processes, and conflicts; policy, law, and culture; information economics, industries, and trade; policies of information commodities (e.g., intellectual property, privacy). Offered in alternating spring semester only.

CINF 766 Special Topics in Information Science (1-3 credits) Current problem, issue or development in Information Science is explored. This course may be repeated for credit with permission of Ph.D. Program Director. Prerequisite: Admission to Information Science Ph.D. Program, or permission of Ph.D. Program Director.

CINF 894 Directed Readings in Information Science (1-4 credits) Supervised readings for doctoral students on a particular topic or significant problem in Information Science. Prerequisite: Admission to Information Science Ph.D. Program, or permission of Ph.D. Program director. Only *12 credits* of CINF 894 can count toward the doctoral degree.

CINF 897 Independent Study and Research in Information Science (1-4 credits) Independent study and research in Information Science at the doctoral level under the direction of a member of the faculty. Prerequisite: Admission to Information Science Ph.D. Program, or permission of Ph.D. Program director. Only *12 credits* of CINF 897 can count toward the doctoral degree.

CINF 899 Doctoral Dissertation (1-12 credits) Required of all candidates completing the Doctor of Philosophy degree. During the period when the candidate is working on his or her dissertation, registration each fall and spring session for a minimum of 1 load equivalent unit is required. Prerequisite: Admission to Ph.D. candidacy.

Courses in Statistics

Statistics classes for the INF Ph.D. program student are decided upon by the student and his/her program committee in order to meet the needs of the student in his/her specializations. The following is not a definitive list but spans a variety of Ph.D.-level (and prerequisite) courses at the University at Albany.

CINF 551 (PHY 551/CSI 551) Bayesian Data Analysis and Signal Processing (3 credits) This course will introduce both the principles and practice of Bayesian and maximum entropy methods for data analysis, signal processing, and machine learning. This is a hands-on course that will introduce MATLAB computing language for software development. Students will learn to write their own Bayesian computer programs to solve problems relevant to physics, chemistry, biology, earth science, and signal processing, as well as hypothesis testing and error analysis. Optimization techniques to be covered include gradient ascent, fixed-point methods, and Markov chain Monte Carlo sampling techniques. Prerequisites: Csi 101 or Csi 201, Mat 214, or equivalents, or permission of instructor.

RPAD 505 (4 credits—a course that is not a the Ph.D. level but often taken by Ph.D. students who need to review basic stats before taking higher level statistics courses

RCRJ 504 (RSSW 504) Applied Statistics I (3)
Introduction to statistical techniques appropriate for use in the criminal justice field. Descriptive statistics; scales of measurement; measure of central tendency, variability, and association. Introduction to statistical inference including sampling distributions and tests of significance. Appropriate for a review course before taking the Ph.D.-level class.

RCRJ 679 Statistics and Data Analysis I (4)
This course is an introduction to statistics, and provides the background necessary for Statistics II. The topics to be covered include descriptive statistics, point and interval estimation, statistical inference, measures of association for discrete variables, and regression. No previous knowledge of statistics is necessary, and no more than a working knowledge of high school algebra is required to follow the material. However, the course assumes that the students will eventually want to use statistics in their own research, and the subject matter will be covered in enough depth for this to be possible.

PAD 705 (or similar, upper level stats classes)

BACC 522 (statistics for Information Assurance specialization students)

EAPS 614 (in the Department of Educational Administration and Policy Studies)

RSSW 679—Statistics I and
RSSW 687—Statistics II (This is a sequence. The first is not a Ph.D. course; students must take both)

HSTA 552 Principles of Statistical Inference I (3) and
HSTA 553 Principles of Statistical Inference II (3) (This is a sequence in Biometry and Statistics, School of Public Health

RCRJ 681 Statistical Techniques in Criminal Justice Research 1 (4) and
RCRJ 687 Statistical Technics in Criminal Justice Research II (4)
RCRJ 690 Statistical Techniques in Criminal Justice Research III (3)

EPSY 530 Statistical Methods I (3) and
EPSY 630 Statistical Methods II (3) (a sequence in Department of Education and Counseling Psychology and Statistics)

ASOC 522 Intermediate Statistics for Sociologists (3)
Review of basic statistical theory and its sociological applications: descriptive statistics, probability, sampling, distributions, parametric and nonparametric statistics, analysis of variance and multiple regression. Prerequisites: Admission to graduate study and an undergraduate statistics course or consent of instructor.

ASOC 622 Selected Topics in Multivariate Analysis (3)
Covers one or more advanced topics in multivariate statistical methods, including logit/probit models, log-linear models, structural equation models, LISREL, factor analysis, time-series analysis, and event history analysis. Prerequisite: SOC 522 or consent of instructor.

Courses in Research Methods

PAD 704 (prerequisite of a multivariate statistics class)

COM 587 - Field Research Methods (which is about ethnography, mostly)

RSSW660 (3 credits) Social Welfare Research

RSSW 862 Social Welfare Research

RSSW 863 Application of Advanced Methods in Social Welfare Research

EAPS 714 Introduction to Research Methods in EAPS

Introduction to Research Methods, EAPS 714, familiarizes students with approaches to research on topics in educational administration and policy studies.

EAPS 715 Research Practicum in EAPS

The final product of EAPS 715 is a 20-30 page research prospectus (including research questions, significance of the study, review of related research, methods, and limitations). The prospectus may provide background and justification for the student's dissertation proposal.

RCRJ 683 Research in the Criminal Justice Process (3 credits)

Critical examination of current research in criminal justice with regard to methodological adequacy and significance and import of its contributions; problems in the design and execution of criminal justice research; the posing of research questions in context; social policy implications of criminal justice research; questions relating to the selection of designs, methods and feedback techniques; problems in the implementation of research findings in innovation.

RCRJ 688 Research Design in Criminal Justice II (4) (Doctoral Students)

Examines research design problems in criminal justice at an advanced level; use of sophisticated classical research designs and data-gathering techniques; analysis of problems related to sampling theory and procedures; application of mathematical models to problems in research design and analysis; use of techniques permitting causal inferences.

Other Analysis Courses that may be of interest to some students

ASOC 509 Research Methods (3)

Theory construction and verification, use of statistics in social research, qualitative research techniques, sampling, measurement, data collection and analysis, policy research, and use of computer in research. A research paper is required. Prerequisite: Admission to graduate study or consent of instructor.

ASOC 535 Qualitative Research Techniques (3)

Participant observation, interviewing, analysis of personal documents, sociological inferences from literature and arts, and sociological use of historical sources. Prerequisite: Admission to graduate study or consent of instructor.

ASOC 626 Survey Design and Analysis (3)

Conceptualization, design, execution, and analysis of large-scale surveys. Prerequisite: Admission to graduate study.

ASOC 708 Selected Topics in Methodology (3)

Intensive investigation of a specific topic, to be announced by instructor. May be repeated for credit. Prerequisite: Soc 609 or Soc 622 or permission of the instructor.

RCRJ 682 Research Design in Criminal Justice I (3)

Development of research design of the kind most useful to criminal justice problems, construction of descriptive systems for qualitative analysis; use of various data collection methods including

observation, development of interview schedules, questionnaire construction and sociometric devices, questions of validity and reliability.

RCRJ 788 Historical Research Methods (2-4)

Introduction to the use of historical research methods in criminal justice research, examining the issues and problems related to collecting and analyzing historical data; the need to provide historical context when dealing with criminal justice topics; selection of specific research topics by individual students.

RCRJ 693 Geographic Information Systems in Criminal Justice I (4)

Exploration of theory and techniques associated with collection, display, analysis, storage of geographic information in the criminal justice environment. Laboratory work will supplement information within lecture component by exposing students to operational geographic information system and databases, supplemented by GIS applications in planning, census and demographic studies, and community and economic planning/development.

RCRJ 694 Spatial Data Analysis - Criminal Justice (4)

This course introduces the student to a variety of methods and techniques for the visualization, exploration, and modeling of spatial data. The emphasis is on understanding concepts underlying spatial data analysis and on description and exploration of data. The main objectives are to teach students about geographic data and its organizations, basic concepts of spatial statistics, applications of exploratory spatial data analysis (ESDA) techniques, point and area pattern analysis and spatial autocorrelation. Course will consist of both lecture and lab work. Prerequisite CRJ693.

RCRJ 697 Qualitative Research in Criminal Justice (3)

This course covers the basics of collecting, analyzing, and writing up qualitative data. It is designed for those who want to employ or incorporate qualitative methods in their own research as well as for those wishing to gain a deeper understanding of how qualitative research is produced and evaluated. We will focus primarily on ethnographic field research and in-depth interviewing, although we will review other methods such as conversation analysis, autobiographies and life histories, and case studies.

RPAD 636 Cultural Analysis of Organization (4)

Exploration of the cultural approach to organizational analysis: theory and methods from anthropology, sociology, and history that focus on the subjective experience of organization members. Students complete a study in which these theories and methods are applied to a public, private or non-profit organization. Prerequisite: Graduate standing.

APSY 614 Meta-Analysis (3)

Covers such substantive issues as: rationale for meta-analyses; estimation of study effect size; combining results of experimental studies; combining results of correlational studies; moderator variable analysis. Prerequisites: Psy 510 and 511or equivalents.

APSY 753 (HHPM 753) Psychometric Theory and Research (3)

Major emphasis on classical and modern measurement theories and their applications. Includes psychological construct measurement, scale construction, and recent developments such as Item Response Theory. Prerequisite: Graduate status.

Ways to Meet the CINF 523 Requirement

CINF 523 Fundamentals of Information Technology is a four-credit course consisting of four modules of one credit each. It is an introduction to the fundamentals of information technology, presented in an intensive graduate format. The course is designed to prepare students for the core courses required as part of the Information Science Ph.D. program.

The course modules are:

- Database Applications
- Introduction to Programming
- Web Technologies
- UNIX and Networking

Students entering the Ph.D. program are required to pass the content of all four modules. Typically, students pass this requirement during the first semester of study in one of five ways:

1. File for a waiver based on previous coursework using the form available on the web site. The coursework you present should be broadly in the area. For example, the Introduction to Programming module sometimes uses Java. The Introduction to Programming course that you took may have been in another language. That is okay. Another example is the Database Applications module, which is based on Microsoft ACCESS. You may have had coursework using another approach or based on another software program.
2. Take a short quiz. If you are familiar with the areas that the modules cover, but have not had formal coursework, you can take the quiz during your first semester. This approach may eliminate one or more modules you need to take during the Fall semester.
3. Take from one to four of the modules during the Fall semester either online (from sites such as Coursera: https://www.coursera.org/) or through other departments at the University. Note that these modules are NOT offered by the Department of Information Science.
4. Take another short quiz in January. This option is offered for those students who have considerable background and/or experience in an area, but would prefer to brush up and take the quiz later in the semester. We do NOT recommend this option unless you have a strong technical background, because if you do not pass the quiz in January, you will be in default for the first year requirements. Check with the Program Director before choosing this option. Also, please let the Program Director know if you are choosing this option so that we can schedule the follow-up quiz in January.
5. File for a waiver based on your service as an instructor of record for a course that covers one or more of the four modules.

If you have any questions about which of these options may be best for you, please consult with the Program Director to make a more informed decision.

Email Accounts and Listservs

The INFPH.D.STU listserv is an important communication resource for students in the INF Ph.D. Program. Graduates of the program are encouraged to subscribe to INFPH.D.ALU for announcements suitable for alumni. All students should have either a University at Albany e-mail account or a commercial personal e-mail account. After establishing an e-mail account, **all doctoral students should make sure they are subscribed to INFPHDSTU to be sure that they will get important information about requirements and activities.**

Messages to the INF Ph.D. faculty may be sent to INFPH.D.FAC@listserv.albany.edu.

Email Accounts

Your University email address and a link to UAlbany Mail are available in the MyUAlbany portal. If you have not already set your password and logged into MyUAlbany, get started by completing the **UAlbany Password Set/Reset** process found on the MyUAlbany Welcome page at http://www.albany.edu/myualbany. Upon completion of the process, a confirmation screen will display your NetID and the systems you can access using your NetID and the password you set/reset.

Please note that many important University communications will be sent to your University email account. You should either read your University mail frequently or have it forwarded to an account that you do read frequently.

For more information about UAlbany Mail and other IT resources at the University, visit the ITS website at http://www.albany.edu/its. On the site, you can search the askIT wiki for instructions about how to set mail forwarding and how to configure a mail client or mobile device for your UAlbany Mail account.

Subscribing to INFPHDSTU (current students only)

1. Log on to your e-mail account.

2. Compose a message to: listserv@listserv.albany.edu. For the message, type: Subscribe INFPHDSTU your name (e.g., Bill Gates) to subscribe to INFPHDSTU.

3. Send the message.

4. You will receive an email message confirming your subscription, with instructions on how to post messages to the list.

Subscribing to INFPHDALU (alumni only)

1. Log on to your e-mail account.

2. Compose a message to: listserv@listserv.albany.edu. For the message, type: Subscribe INFPHDALU your name (e.g., Bill Gates) to subscribe to INFPHDALU.

3. Send the message.

4. You will receive an email message confirming your subscription, with instructions on how to post messages to the list.

Professional Organizations

All doctoral students are encouraged to join at least one professional association while they are in school. Participation in a professional organization gives students a chance to learn about career paths they are considering and to become familiar with current problems and trends in the field. There are reductions in membership dues available to student members (often extending into the first year of regular membership), and members may also make use of the association's recruiting services to assist in job placement. Networking with experienced colleagues, attending meetings and conferences, serving on committees, making presentations, and helping to plan programs will undoubtedly assist with your career prospects and professional opportunities on a long- term basis.

Academy of Management
www.aomonline.org

American Association for Artificial Intelligence (AAAI)
www.aaai.org

American Library Association (ALA)
www.ala.org

American Medical Informatics Association (AMIA)
www.amia.org

American Society for Indexers (ASI)
www.asindexing.org

Association for Computing Machinery-Special Interest Group on Information Retrieval (ACM-SIGIR)
www.acm.org/sigs/sigir/

Association for Computing Machinery-Special Interest Group on Knowledge Discovery and Data Mining (ACM-SIGKDD)
www.acm.org/sigs/sigkdd/

Association for Information Science and Technology (ASIST)
www.asis.org

American Society for Public Administration (ASPA)
www.aspanet.org

American Sociological Association (ASA)
www.asanet.org

Association for Information Management Professionals (ARMA)
www.arma.org

Association for Information Systems (AIS)
www.aisnet.org

Association for Library and Information Science Education (ALISE)
www.alise.org

Association for Library Collections & Technical Services (ALCTS)
http://www.ala.org/alcts/

Digital Government Society of North American (DG Society)
www.dgsociety.org

Institute of Electrical and Electronics Engineers, Inc. (IEEE)
www.ieee.org

International Society of Knowledge Organizations (ISKO)
www.isko.org

Library and Information Technology Association (LITA)
http://www.ala.org/lita/

Management of Information Resources & Technology (SMART)
http://nylasmart.wordpress.com/

Mid-Atlantic Regional Archives Conference (MARAC)
http://www.marac.info/

National Communication Association
www.natcom.org

New York Library Association (NYLA)
www.nyla.org

System Dynamics Society
www.systemdynamics.org

UA Graduate Student Association (GSA)

The Graduate Student Association (GSA) is a student-run group that creates programs designed to facilitate and enhance the academic and extracurricular experience of graduate students at the University at Albany, SUNY. http://www.albany.edu/gsa/

Information Science Student Association

The Information Science Student Association is a student-run group within the College of Emergency Preparedness, Homeland Security and Cybersecurity. It was formed as a means for students at all levels to participate in strategic planning, academic growth, professional development, and social experiences within CEHC. For more information contact the CEHC Manager of Graduate Studies.

Important INF Ph.D. Program Contacts

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