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ROADMAP

Ph.D.

A Ph.D. DEGREE GUIDE FOR INFORMATION SCIENCES AND TECHNOLOGY STUDENTS

PENNSTATE



COLLEGE OF INFORMATION
SCIENCES AND TECHNOLOGY

Managing Information, Powering Intelligence

IST Graduate Programs Contact Information

Dr. Andrew Sears

Dean
asears@ist.psu.edu

Dr. Mary Beth Rosson

Professor of IST
Associate Dean for Undergraduate and Graduate Education
mrosson@ist.psu.edu

Dr. Andrea Tapia

Associate Professor of Information Sciences and Technology
Graduate Programs Academic Coordinator
atapia@ist.psu.edu

Michelle Hill

Administrative Support Coordinator, Graduate Programs
graduateprograms@ist.psu.edu

Jaclyn Stimely

Administrative Support Coordinator, Graduate Programs
graduateprograms@ist.psu.edu

College of Information Sciences and Technology
Office of Graduate Programs
321F Information Sciences and Technology Building
University Park, Pennsylvania 16802-6823
Phone: 814-865-8711 or 814-863-9455
Fax: 814-865-6426

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About the College of Information Sciences and Technology

Solving society's most challenging problems—from responding to natural disasters to improving human health and well-being, from protecting national security to making sense of big data, from exploring the connections between gender and technology to utilizing GIS for humanitarian efforts—calls for approaches that transcend traditional disciplinary boundaries. Precise computational models are needed to learn from the vast datasets available. Scientific theory needs to describe the complex relationships we encounter in the ecosystem we live in, networked with an increasing number of virtual friends, collaborators, and customers.

At Penn State's College of Information Sciences and Technology (IST), you will receive multidisciplinary training to prepare you to address complex issues related to technology and society. Our graduate students come from a variety of backgrounds, including computer science, engineering, psychology, sociology, economics, philosophy, visual arts, and math.

The College of IST's faculty and graduate students engage in cutting-edge research in areas such as human-computer interaction, artificial intelligence and cognition, health- and bio-informatics, and psychology of terrorism, to name just a few. We excel in security informatics (or cybersecurity) research, exploring how we can better protect companies from cyber-attacks and nations from cyber war. We examine information retrieval, search engines, and big data as means to understand complex knowledge and societal and economic relationships. We study cognition and human-computer interfaces in order to comprehend how an individual's abilities and limitations fit into a connected world full of technology. To succeed in all of these areas, as a graduate student in IST you will develop important skills in math, computer science, and social and behavioral sciences. You will learn how to analyze qualitative and quantitative effects in data; and be able to understand, test, and contribute to scientific theory.

Rankings

Penn State is ranked by Times Higher Education in the top 1 percent of higher education institutions worldwide. U.S. News & World Report consistently ranks highly Penn State's graduate schools in disciplines relevant to IST. Among iSchools, a consortium of information schools dedicated to advancing the information field in the 21st century, IST at Penn State is unique in its focus on social technology, cognition, and business.

The Ph.D. in Information Sciences and Technology

The Ph.D. program provides foundational training that will prepare you for a career in information science, related sciences, and technology research. The first-year core curriculum will give you the skills and background to conduct interdisciplinary technology research. A flexible elective structure will provide customization for your interests and needs. After the first two years of courses, you will engage in further research, leading to a comprehensive exam and dissertation proposal, followed by a dissertation defense. Typically you will graduate in 4-5 years after you enter the program.

As a Ph.D. student, you will work on a series of research projects, publishing work with your adviser(s) and fellow lab members in international conferences and journals, effectively beginning a career in research while still a student. As you progress through the program, you will be advised and become self-directed, rather than managed. Given this level of autonomy, students find the Ph.D. program particularly challenging and rewarding.

On the following pages, you will find useful information about how our Ph.D. program is structured, and a description of the expectations we have for our graduate students. In addition, this Handbook provides details of the University and College policies and procedures that will govern your time here at Penn State.

I. Faculty Adviser and Annual Review

Each IST Ph.D. student must identify a member of the IST Graduate Faculty who is willing to serve as his or her faculty adviser. The role of the faculty adviser, process used to make initial assignments of faculty advisers to students entering the Ph.D. program, and explanation of the annual review are all described below.

A. Role of Faculty Adviser

The faculty adviser provides advice and mentoring to the Ph.D. student (advisee) on issues related to research and academics. During the first year of a student's Ph.D. study, the adviser helps the student to identify potential research topics and to begin the reading and synthesis of related literature; as appropriate the adviser also guides the student toward specific research projects and outcomes, either individually or as part of a larger ongoing research team. The adviser also provides feedback to the student about research ideas, research progress, and research outcomes. The adviser helps the student regarding his or her academic studies; after the student passes the candidacy examination the adviser helps in the formation of the student's doctoral committee and in the preparation of the dissertation proposal. In general the faculty adviser helps the student become familiar with the program and its requirements. Finally, the adviser assists and advises the student on career planning.

B. Adviser Matching Process for Newly Admitted Students

The IST Graduate Programs Office coordinates the assignment process for new students, working with the students and faculty members to ensure a good match during the recruitment process.

New students should arrive on campus before mid-August to participate in orientation and are expected to begin working with their adviser by the first day of fall classes. Advisers are officially recorded by filling out a Student-Adviser Agreement Form (see p.20) to be submitted to the Graduate Programs Office by October 1st.

C. Annual Review

An annual review will be conducted each March/April to evaluate the progress of Ph.D. students in their graduate studies. As a part of the review process, each Ph.D. student completes an Annual Evaluation form (see p. 26) and updates his/her curriculum vitae (CV). Then, each student meets with his/her adviser to discuss coursework completed or to be taken, research progress, related issues, and to plan for the following year. After this meeting, the adviser rates the student's performance and provides comments to explain the rating. This form should then be submitted with the student's CV to the IST Graduate Programs Office.

The annual review uses a five-point scale (Exceptional, Exceeds Expectations, Meets Expectations, Needs Improvement and Fails to Meet Performance Expectations). In the event that a student's progress is rated Needs Improvement or Fails to Meet Performance Expectations by the faculty adviser, steps are taken to understand the nature of the problems and to develop a plan for addressing these issues. On some occasions, an adviser change will be recommended; in other cases, the student may be required to complete specific tasks on a stated timeline. In yet other situations, the student may be counseled to transfer to the Master's program rather than continue on with Ph.D. studies.

In the event that a student's progress is viewed unsatisfactory by the faculty adviser, steps are taken to understand the nature of the problems and to develop a plan for addressing these issues. On some occasions, an adviser change will be recommended; in other cases, the student may be required to complete specific tasks on a stated timeline.

II. General Assistantship Policies

A. Assistantships

Assistantships for Ph.D. students fall into two categories: Research Assistantship (RA) and Teaching Assistantship (TA). Research assistantships are provided by a student's faculty adviser (or by another faculty member who has extra funds available), while teaching assistantships are provided by the College.

Assistantship appointments in IST are generally on a half-time basis requiring service of approximately 20 hours per week. Students with half-time appointments receive tuition to cover the mandatory course load of 9 to 12 credits per semester. Appointments automatically end at the conclusion of each semester and appointments carry no guarantee of renewal. Both research and teaching assistantships are contingent on satisfactory performance of assigned duties. Students may lose funding in the event that they fail to meet the responsibilities of the position.

IMPORTANT: Students who are receiving Assistantship funding should be aware that their arrival to campus at the beginning of the semester and their departure from campus at the end of the semester is impacted. These students should plan to arrive the week before the semester begins and should not schedule a departure date prior to the end of Finals Week.

1. Research Assistantships (RA)

An RA's supervisor is most often the student's faculty adviser, and will, to some degree, dictate the supporting coursework and other aspects of the research assistant's preparation needed to fulfill the assistantship responsibilities. When the two roles are performed by the same faculty member, supervision of research assistant duties and progress towards completion of the doctoral dissertation are difficult to separate. The combination of the research appointment and the registration for coursework or dissertation credits should represent a realistic workload.

RAs may be expected to do any of the following: design and implement software; design and conduct experiments involving human subjects, including applications for Institutional Review Board (IRB) approval; collect and process data; search for materials at the University Libraries or perform Web research; interact with sponsors and vendors; prepare reports and related presentation materials; attend meetings and seminars; participate in writing manuscripts for conference and journal submissions; participate in preparing presentations for conferences; and assist in preparing research funding proposals as directed.

The RA's supervisor will clarify the specific work needed for a given research assistantship position, regularly oversee the work, and evaluate the work, dependability, and readiness of the RA to move to higher levels of responsibility such as taking the lead on data analysis, helping to supervise undergraduate research assistants, crafting of manuscripts, and making presentations.

2. Teaching Assistantships (TA)

A TA is assigned to support one or more specific courses for a particular semester, not to support a faculty member. In other words, if a faculty member other than the student's adviser teaches a course to which a TA is assigned, the student is supervised in his/her teaching-related responsibilities by this other faculty member. We will refer to the faculty member who teaches the course section(s) to which a TA is assigned as the TA's supervisor. Students who receive TA support generally possess specialized skills or experience gained through prior work experience.

TAs should meet with their supervisors prior to the start of the semester, as well as during the semester. Once assignments have been announced, TAs should contact their supervisors to let them know when they are available for meetings prior to the start of the semester. Initially, the TAs should expect to receive a course syllabus, a textbook if one is used, any information to be distributed to the students, and specific details about what they are expected to do over the course of the semester. TAs and their supervisors should discuss the instructional goals and objectives of the course and the means to accomplish them. Periodically, meetings should be held to emphasize how specific assignments or projects should be evaluated. TAs should expect to attend course lectures and labs, and to be aware of the instructor's emphasis and expectations of the students.

TAs may expect a wide variety of assignments including the following: grading homework, projects, and examinations; preparing assignments; preparing solutions for posting or distribution; maintaining office hours and holding special lab or review sessions; helping to prepare, photocopy, and administer examinations; prepare and set up demonstrations; processing grade data, and perhaps, assigning grades.

If a TA must be absent from an assigned job due to illness, a personal emergency, or professional trips, they must notify the supervisor at the first knowledge of such an absence and work with the supervisor to ensure that his/her responsibilities are covered.

IMPORTANT: TAs should not make travel plans the week before the semester begins, during the last week of the semester, or the week immediately following the end of classes. These periods are critical for preparation before the semester begins, and for end-of-semester grading and grade calculations. In exceptional conditions a supervisor may agree to allow a TA to depart early or arrive late, but this should never be assumed by the TA. Permission for such exceptions must be requested in advance.

Before the first week of the semester, the TA and supervisor should meet and complete a TA Agreement form (see p. 29) to assure that all start-up details have been discussed and arranged. At mid-semester and again at the end of the semester, the TA and the supervisor should complete separate evaluation forms done electronically.

NOTE: Enrollment in IST 602 (Supervised Experience in College Teaching) is required for all students TA'ing during their first semester. This course is offered every spring and fall semester and is designed to help new teaching assistants become more effective in their teaching. It also provides teaching assistants with the opportunity to learn some pedagogy and to discuss problems that arise in the classroom.

3. Teaching Fellows

The IST Ph.D. program encourages all Ph.D. students to take on some degree of primary teaching responsibility during their program of study. This is particularly important for students seeking academic positions after graduation. Thus, the College has a Teaching Fellow program, wherein advanced students, or those who arrive with prior experience, may apply to teach a class independently. This program is based on resource availability and student qualifications; in all cases a teaching mentor will also be assigned to provide oversight of the teaching process.

III. Additional Information

A. Student Insurance

All graduate assistants and any dependents who accompany them must have health insurance. A student may choose to purchase insurance separately and provide evidence that their policy meets the standards of Penn State. Otherwise, a student will be enrolled in a group policy for students. More information can be obtained by contacting the [Graduate Student Association](#) or the [Graduate Student Insurance Office](#).

B. Stipends

Stipends are delivered electronically into the student's local bank account five times each semester on the last working day of the month and twice during the summer (if hired for summer). **Please note - a newly appointed graduate assistant arriving in August may not receive his or her first paycheck until the end of September.**

C. AEOCPT

It is mandatory that all international students take the American English Oral Communication Proficiency Test (AEOCPT) upon arrival. No international student will be assigned to a teaching assistantship until this test is passed or remediation steps (typically taking English language courses) have been completed. More information can be obtained by contacting the [Department of Applied Linguistics](#).

D. Scholarship and Research Integrity (SARI) Training

All graduate students are required to complete Scholarship and Research Integrity (SARI) training specified by their college/department. Penn State's Scholarship and Research Integrity (SARI@PSU) program is designed to offer Penn State researchers and scholars comprehensive, multilevel training in the responsible conduct of research (RCR), in a way that is tailored to address the issues typically faced by individual disciplines. SARI@PSU programs address topics such as publication practices and responsible authorship, conflicts of interest, research misconduct, peer review, mentoring, data management, collaborative research, human subjects' protections, and animal welfare. In general, SARI@PSU addresses these issues through two initiatives: an online RCR training program offered by CITI (Collaborative Institutional Training Initiative at the University of Miami), and interactive, discussion-based RCR education. All graduate students at Penn State, who matriculate in fall of 2009 or later, are required to complete the SARI@PSU requirements prior to graduation.

The College of IST requires two on-line module trainings in Human Subjects Research and Responsible Conduct of Research, along with five hours of discussion based training that is covered at the new student orientation. This training plan and student participation report is available from the [Office for Research Protections](#) upon request.

IV. Ph.D. Degree Requirements

A. Full-time Matriculation

Graduate students in the IST Ph.D. program are expected to matriculate on a full-time basis at the University Park campus each fall and spring semester. There are no exceptions to this requirement. In addition, applicants to the Ph.D. program are ordinarily expected to start in the fall semester of each year. To be considered full-time, students do not need to be registered in summer if they have been registered the previous fall and spring semesters.

B. General Requirements (41 credits)

The doctor of philosophy degree in Information Sciences and Technology (IST) offers advanced graduate education for students contemplating careers in academic teaching and research, as well as research in non-academic settings. The program is interdisciplinary and expects scholarship at the highest levels with each student exhibiting depth of competency in at least one of the core areas of IST.

The curriculum consists of a core requirement which provides a common theoretical foundation for all Ph.D. students in IST. Students will be expected to complete a minimum of 41 course credits plus additional dissertation credits (for example, IST 600/601). Reflecting the interdisciplinary nature of the program, many elective courses will be those offered by other colleges.

Course Requirements:

- 6 credits IST 501 (required first semester)
- 2 credits IST 590 (colloquium required in the first and second semesters)
- 9 credits foundations courses: IST 510; IST 520; IST 530
- 12 credits research methodology courses, no specific requirement, must be graduate level
- 12 credits specialization courses, maximum of six 400-level credits

NOTE: Students must maintain a GPA of 3.0 in their coursework in order to complete milestones and to graduate.

1. Core Requirements (11 credits)

All Ph.D. students are expected to develop a broad understanding of foundations, theories and methods across the disciplines that together constitute the research landscape of the College. During the first year, students take IST 501, and three foundations courses IST 510, 520 and 530, two semesters of colloquiums (IST 590), one credit each.

The Fall semester colloquium is designed to help students craft a research topic and relevant literature review that can be distilled into an abstract suitable for the student's candidacy exam, described in detail on page 7.

2. Research Methodology Requirements (12 credits)

All candidates must take courses that will guide them to acquire and practice research methods relevant to their dissertation project or other research activities. The research methodology courses should be 500-level and selected with the help of the faculty advisor to ensure that they best support the student's research program. The number of research methodology courses at Penn State is large, but any course used to fulfill this requirement must be justified through its focus on methods, not on a problem domain. To assist in this selection, Graduate Programs maintains a list of research methodology courses that have proven to be useful to IST Ph.D. students in the past. Students seeking to designate a course as a methods requirement that has not been pre-approved, should have the syllabus reviewed in advance by the Graduate Programs Office.

3. Specialty Area Requirements (12 credits)

All candidates should identify graduate courses in IST or other units that provide in-depth concepts and skills related to support their dissertation projects or other research activities. A maximum of six credits of these elective courses may be fulfilled by undergraduate courses at the 400-level.

4. 600-level credits

In addition to the 41 credit requirement, students also register for IST 600 research credits. Up to 12 600 credits may be graded with a letter grade. After a student reaches this threshold, any additional 600-level credits should be assigned an "R". Upon successful completion of the comprehensive exam, students register for IST 601. Students must fill out the Research Credit form to have IST 600 and IST 601 added to their schedule (see p. 24).

5. Time Limitation

A doctoral student is required to complete the program, including acceptance of the doctoral dissertation or the passing of the final performance, within eight years after the date of successful completion of the candidacy examination. To request an extension the IST Graduate Programs Office must send a memo to the Director of Graduate Enrollment Services for review. The extension may be granted in appropriate circumstances.

6. Language and Communication Requirements

In addition to successfully fulfilling the English competency expectation through the AEOCPT exam and/or remediation, all candidates must be competent in the English language and must have demonstrated skills in the communication of ideas orally and in writing that are commensurate with the requirement of professional work. One component of the candidacy examination is an assessment of written and oral English proficiency. If the outcome of the candidacy exam is remediation then the student must work with his/her adviser to plan for remediation, including additional courses, mentoring, or other activities.

V. Minor

A Ph.D. candidate is not required by the Graduate Council to have a minor field of study. However, a department or a committee in charge of a major field may require a candidate to pursue work in a minor field, or a student may elect such a program with the permission of the doctoral committee.

A doctoral minor consists of no fewer than 15 graduate credits of integrated or articulated work in one field related to, but different from, that of the major. Programs should consider that a doctoral minor should represent curriculum and study that reflect graduate-level concepts and scholarship, with a preponderance of courses at the 500-level, however, at a minimum, six credits must be at the 500-level. A minor may be taken in one of the approved graduate degree programs offered at Penn State. The minor field chosen must have the approval of the departments or committees responsible for both the major program and the minor field. If more than one minor is being proposed, a separate group of courses must be taken for each (i.e., none of the courses may be used to fulfill the requirements of two or more minors). If the student received a master's minor in the same field as is being proposed for a doctoral minor, the 15 credits taken must be above and beyond those used for the master's minor. However, credits earned in the master's program over and above those applied to either the master's minor or major may be applied to a minor in the Ph.D. program.

At least one faculty member from the minor field must be on the candidate's doctoral committee. To be identified on the official transcript as a minor, students must formally declare it by submitting a Request to Add Graduate Minor form to the Graduate Programs Office.

VI. Candidacy Examination for the Ph.D. in Information Sciences and Technology

The candidacy examination is a University-mandated procedure to assess whether the student is capable of conducting doctoral-level research. In the College of IST, the candidacy exam occurs at the end of the first year. The candidacy examination is comprised of three questions, one from each of three committee members. The candidacy examination is administered by a committee assigned by the College. The committee is chaired by the Graduate Programs Coordinator or Graduate

Programs Advisor. Voting members of the committee represent a mix of faculty members from more than one research area in IST. Examples of research areas are computational informatics, artificial intelligence and cognitive science, human-computer interaction, and social/enterprise informatics.

The candidacy exam is intended to assess not only the student's preparedness to conduct doctoral research, but also the student's written and oral competency to successfully execute and defend a doctoral dissertation. Because of this, the student cannot rely on any external feedback in their written submissions. In other words, the written submissions to questions cannot be edited by the advisor or a copyeditor.

A. Candidacy Examination Timeline

1. The student works with his or her faculty advisor to submit an abstract summarizing a current research topic of interest which will become the topic of the candidacy examination. The student and advisor also propose up to three committee members to the Graduate Programs Office by mid-April. The members are selected such that the research expertise of one overlaps with that of the student but the other two members are working with complementary research topics and methods.
2. The student is assigned a candidacy examination committee comprised of three faculty members by mid-May. Committee composition is a function of students' suggestions, disciplinary breadth, and load balancing within the entire population of IST graduate faculty.
3. The three committee members each develop a suitable question based on the student's abstract. These questions should challenge the student to both explore their topic in depth and to consider their topic from different research perspectives. These questions are made available to the student in late July.
4. The student submits the written candidacy examination to the committee and the IST Graduate Programs Office on or before the first week in August. Each committee member submits their written evaluations of the exam responses to the Graduate Programs Office. Each voting committee member grades only the question that he or she wrote. The outcome of the written portion of the exam is based on these scores.
5. The committee conducts an oral examination in late-August or early-September. Each committee member reads all three exam responses and evaluates the student's ability to describe these responses and other questions posed by committee members during the oral examination. Based on the committee's assessment of both the written and oral examinations, the committee generates a report to recommend the outcome of the examination to the College. The report consists of review and breakdown of the strengths and weaknesses of the student.

B. Candidacy Examination Outcomes

Possible outcomes (and resulting actions) for the examination are summarized below.

1. *Pass* — A student successfully completes the examination (as determined by each Candidacy Exam committee) and may proceed with his or her Ph.D. studies. At this milestone the student is officially a candidate in the doctoral program.
 - In some cases, the committee may recommend a Pass outcome that is contingent on additional work, for example, completing extra coursework. Such cases will be accompanied by a remediation rationale that is generated by the committee. All remediation recommendations will be reviewed by Graduate Advisory Committee (GAC) (without any involvement from GAC committee members or advisors who happen to be

part of the candidacy committee). In general, GAC will defer to the committee's judgment but has the authority to initiate an appeal process if serious concerns are raised.

2. *Fail with opportunity for Retake* — The student must retake the candidacy exam. This retake may include a Retake of one or more of the written answers (e.g., if the committee feels that the student has provided useful content but the writing is poor); a Retake of the oral exam (e.g., if the committee feels that the critical literature review was adequate but the oral exam was poor); or a Retake of both parts of the exam. The Retake exam will be scheduled to take place approximately two weeks after the original exam.

If the student passes the Retake examination, he or she will be recommended to continue on with the Ph.D. program. If the student fails the Retake, he or she will be treated in the same fashion as students failing on their first effort.

3. *Fail* — The student is not eligible to continue the Ph.D. program. In such a case, the student's faculty advisor, the Graduate Programs Coordinator, and Graduate Programs Advisor will counsel the student. The student *may* be provided an opportunity to complete a Master of Science degree in IST. If the student accepts this opportunity, a Resume Study/Change of Degree form must be completed and sent to the Graduate School.

C. Documentation of Candidacy Examination Results

All examination results and actions are monitored by the Graduate Programs Coordinator, who notifies the candidate and the candidate's advisor of the outcome. Any issues or appeals regarding exam outcomes will be handled in consultation with the Graduate Programs Coordinator, Graduate Programs Advisor, and if needed the Associate Dean for Undergraduate and Graduate Studies. Graduate Programs will complete a doctoral candidacy report and file it with the Graduate School. This report and all examination materials will be maintained in the student's digital file.

The next major milestone for doctoral students who successfully complete the candidacy examination is to complete his or her coursework and prepare for their Ph.D. dissertation proposal and the comprehensive examination. This exam is normally taken early in the student's third year in the Ph.D. program (12-18 months after completing the candidacy examination).

VII. Doctoral Committee Selection

After successful completion of the candidacy examination and before the comprehensive examination, the student must formally select his or her Ph.D. committee. It is expected that all members of this committee design and plan the student's comprehensive examination and that the entire committee is responsible for the intellectual development and research activities of the student during the post-candidacy period. To document this step, a Graduate Student Committee Procedures and Doctoral Committee Appointment Signature Form must be completed at the time of scheduling your comprehensive exam. The form can be obtained from the IST Graduate Programs Office. This committee will be composed of four or more graduate faculty members with at least three members of the committee having current graduate faculty appointments in IST. The committee chair must be a graduate faculty member who has a full or partial budgetary appointment in IST. The committee must have one outside field/unit member who is a Penn State graduate faculty member with no budgetary connection or conflict of interest with the IST program. An affiliated faculty member of IST with graduate appointment at Penn State may be counted as an outside field/unit member of an IST student's doctoral committee, but only those with full or partial budgetary appointments in IST can serve as a committee chair or internal member.

There are additional committee composition requirements for those students pursuing a Dual-Degree or a Minor. Please see the Graduate Programs Office to determine the specific composition needs for these unique cases.

VIII. Comprehensive Examination

When a candidate for the Ph.D. degree has completed most or all of their coursework, a comprehensive examination is given. The comprehensive examination is generally taken within 12-18 months of passing the candidacy examination. The comprehensive examination is intended to evaluate the candidate's mastery of the major, and if appropriate, minor field.

- An international candidate for the Ph.D. must have satisfied the English competency and the communication and foreign language requirement before taking the comprehensive examination.
- All candidates are required to have a minimum grade-point average of 3.00 for coursework done at the University at the time the comprehensive examination is given and may not have deferred or missing grades.
- The candidate must be registered as a full-time or part-time student for the semester in which the comprehensive examination is taken.
- The candidate can have no more than 12 graded "600-level" research credits. After a student reaches the 12 credit limit, he/she should be assigned the grade of "R."
- When a period of more than six years has elapsed between the passing of the comprehensive examination and the completion of the dissertation defense, the student is required to pass a second comprehensive examination before the final oral examination will be scheduled.

The comprehensive exam has a written and oral component. Each College in the University determines how the comprehensive exam will be structured. In the College of IST, the Graduate Faculty have chosen to combine the comprehensive exam and the proposal defense into a single session. In this section, we offer details specific to the comprehensive exam process and in the following section, we highlight expectations for the dissertation research proposal defense itself. Students are encouraged to familiarize themselves with *both* activities and the way that they are linked in the College of IST.

Because the comprehensive exam and proposal defense happen in a single session, students are assessed on their mastery of their major (and minor, if appropriate) as demonstrated by the content of their literature review and methodology sections presented in the written proposal, and as ascertained through oral questioning by the committee members. Committee members assign a rating of the candidate's mastery (Superior, Above Average, Average, Below Average or Fail). A vote of at least two-thirds is required for passing the comprehensive. Students should note that a two-thirds assessment of Fail results in the student's termination from the Ph.D. program. The results are formally reported by the IST Graduate Programs Office to the Office of Graduate Enrollment Services.

Working with their advisor and other committee members, the student prepares a dissertation proposal (see the next section for details). The proposal must be available to the committee to review at least two weeks prior to the date of the examination. The proposal is evaluated by the committee members completing the College of IST Doctoral Comprehensive Examination Dissertation Proposal Approval form (see p. 33) after the proposal defense.

The examination is scheduled by the IST Graduate Programs Office. Students should fill out an IST Exam Scheduling Request Form (see p. 25) and a completed Degree Audit form (see p. 28) and return it to the Graduate Programs Office. Since a two week notice is required by the University's Office of Graduate Enrollment Services for preparing the paperwork for this examination, which may be open to the public at the advisor's and student's discretion, the IST Graduate Programs Office requires notification at least three weeks prior to the anticipated date.

The exams are announced by the IST Graduate Programs Office one week prior to the exam. Students must submit electronically a research abstract to graduateprograms@ist.psu.edu at the time of scheduling your exam.

At least three members of the doctoral committee (including the dissertation advisor or Chair) must be physically present at the comprehensive examination. The graduate student also must be physically present at the exam. No more than one member may participate via telephone; a second remote member may choose to participate via video-conferencing. The examination request and a request for exceptions must be submitted to the Director of Graduate Enrollment Services by the IST Graduate Programs Office for approval at least two weeks prior to the date of the exam. Special arrangements (i.e., requirements for meeting participation via distance) should be communicated to the student and the doctoral committee members well in advance of the examination.

A student must be registered continuously for each fall and spring semester following the semester he or she passes the comprehensive exam until his or her dissertation defense (final oral examination) by selecting IST 601 (see p. 24).

IX. Dissertation Research Proposal

A. Objective

The objective of the dissertation research proposal is to assess the direction and the appropriateness of the research that will serve as a basis of a Ph.D. dissertation. As part of the Comprehensive Exam, the Ph.D. candidate submits to their doctoral committee a dissertation research proposal that will be presented and defended at a formal meeting of the student's committee. This meeting is open to the University community, and scheduling timelines have been presented in the previous section.

B. Written Dissertation Research Proposal Format

The written proposal must include a review of the relevant literature, definition of the research concepts and methods, and a research schedule with milestones. The written proposal should be given to the candidate's doctoral committee at least two weeks prior to the scheduled comprehensive exam/proposal defense meeting.

Sample Research Proposal Outline

- I. Abstract
- II. Introduction
 - Problem definition and scope
 - Motivation from the perspectives of information, technology, and people
 - Research objective(s)
 - Research question(s)
- III. Review of literature
- IV. Proposed research
 - Research framework and approaches to be used
 - Rationale for proposed approaches
- V. Research plan
 - Key tasks and activities
 - Schedule
 - Expected contributions of the research

VI. Bibliography/references

If human subjects are to be used, the student must complete the Application for the Use of Human Participants and submit it for approval to the [Office of Research Protections](#) (ORP) upon successful defense of the proposal.

C. Defense of Dissertation Research Proposal

The candidate is asked to present and defend his or her dissertation research proposal to those attending the comprehensive exam/proposal defense meeting. Questions are permitted from any of those in attendance as instructed by the Committee Chair. At the conclusion of the presentation and defense, all attendees except the candidate and the candidate's doctoral committee are requested to leave the meeting. Committee members can then ask any additional questions they feel are appropriate. The candidate is then asked to leave the meeting for a short period of time as the committee discusses and evaluates the proposal, the presentation, and the proposal's defense. The candidate then will be called back to discuss the evaluation.

The committee's assessment of the proposal defense focuses on the candidate's readiness to conduct the proposed research. This assessment includes conceptual readiness and methodological readiness. Candidates will be assessed as Acceptable to Proceed, Needs Revision or Needs a Complete Overhaul before proceeding. In addition the committee members may request additional committee review of any revisions prior to proceeding on to the research phase.

X. Dissertation Defense (Final Oral Examination)

A. Objective

The objective of the dissertation defense (final oral examination) is to assess a Ph.D. candidate's research accomplishments based on the completion of a final draft of the candidate's dissertation. This is to be facilitated by the Ph.D. candidate submitting the final draft of the dissertation to their Ph.D. committee and by presenting and defending the dissertation to his or her committee at a formal meeting that is open to the University community. The final draft should be in a format that meets the editorial standards of the Graduate School.

B. Graduate School Guidelines

Changes to the official [Graduate School publication](#) take precedence over the content of this section.

The doctoral candidate who has satisfied all other requirements for the degree will be scheduled to take a final examination. Two weeks' notice is required by the Office of Graduate Enrollment Services for scheduling this examination. Paperwork must be submitted to the IST Graduate Programs three weeks in advance of the examination. Normally, the final oral examination may not be scheduled until at least three months after the student has passed his or her Ph.D. dissertation proposal (oral comprehensive examination). The Director of Graduate Enrollment Services may grant a waiver in appropriate cases. The deadline for holding the examination is ten weeks before commencement. It is the responsibility of the doctoral candidate to provide a copy of the dissertation to each member of the doctoral committee at least two weeks before the date of the scheduled examination.

Both the dissertation advisor and the student are responsible for ensuring the completion of a draft of the dissertation and for adequate consultation with members of the doctoral committee well in advance of the final oral examination. The dissertation should be in its final draft, with appropriate notes, bibliography, tables, etc., when it is submitted to committee members for

review. The final examination of the doctoral candidate is an oral examination administered and evaluated by the entire doctoral committee. It consists of an oral presentation of the dissertation by the candidate and a period of questions and responses. These questions will relate, in large part, to the dissertation, but may also cover the candidate's entire program of study because a major purpose of the examination is also to assess the general scholarly attainments of the candidate. The portion of the examination in which the dissertation is presented is open to the public.

At least three members of the doctoral committee including the dissertation advisor or chair must be physically present at the final oral examination. The doctoral candidate must also be physically present at the examination. No more than one member may participate via telephone or video-conferencing. The examination request and a request for exceptions must be submitted to the Director of Graduate Enrollment Services through the IST Graduate Programs Office for approval at least three weeks prior to the date of the examination. Special arrangements, such as requirements for meeting participation via distance, should be communicated to the student and the doctoral committee members well in advance of the examination.

At the time of the dissertation defense, the doctoral candidate must also meet the following criteria:

- The student must be registered as a full-time or part-time degree student for the semester in which the final oral examination is taken.
- The student is required to have a minimum grade-point average of 3.00 for work done at the University at the time of the final oral examination and may not have deferred or missing grades.
- The student can have no more than 12 graded "600-level" credits.
- The student must have completed the residency requirement by the time the final oral examination is scheduled.
- There must be a three-month time elapse between the comprehensive exam and the final examination.
- The final oral examination must be scheduled within six years of the comprehensive examination.

A favorable vote of at least two-thirds of the committee members is required for passing. The results of the examination are reported by IST Graduate Programs to the Office of Graduate Enrollment Services within ten days of the examination. Frequently the committee requests clarification and/or revision to one or more sections in the dissertation before believing the dissertation to be successfully completed. The committee can determine whether these clarifications can be monitored by the student's advisor or whether the committee seeks to review the clarifications in a revised version.

C. General Dissertation/Thesis Requirements

The Graduate School, the University Libraries, and the graduate faculty of Penn State have established format standards that a dissertation or thesis must meet before it receives final approval as fulfillment of a graduate requirement. The Thesis Office is the unit of the Graduate School responsible for certifying that dissertations and theses have been prepared in accordance with these established regulations.

Every dissertation must be reviewed and approved by Thesis Office staff. That office reviews for format only and does not edit for spelling, grammar, or punctuation. When a dissertation is

submitted to the Thesis Office, it must meet the formatting and deadline requirements set forth in the latest edition of the [Thesis Guide](#). The Information Technology Services ([ITS](#)) provides a list of thesis resources to facilitate the writing process and offers [PSST](#) (Penn State Thesis Template). This is a software package that contains a collection of templates including styles, macros, toolbars, menus, and layouts. In addition, the [Statistical Consulting Center](#) gives free advice to graduate students working on thesis research. The [Graduate Writing Center](#) in 111-H Kern Graduate Building provides consultation to graduate students in all disciplines

A doctoral dissertation must be submitted to the University. For more information on electronic dissertations or theses (eTDs), visit the [eTD's website](#)

In all cases, the dissertation author bears the ultimate responsibility for meeting Graduate School requirements. It is the dissertation author who must pay the dissertation/thesis fee, activate the intent to graduate, meet deadlines for submission and corrections, and obtain signatures from appropriate faculty members.

A summary of the dissertation submission requirements is provided below. The dissertation author should:

- Become familiar with the format requirements by reading the [Thesis Guide](#) carefully and be aware of all Graduate School and Thesis Office deadlines as indicated on the [Thesis, Dissertation, and Performance Calendar](#)
- Activate the intent to graduate on [eLion](#) during the semester in which you plan to graduate. Go to the [Thesis, Dissertation, and Performance Calendar](#) for deadline.
- Upload a draft of your dissertation for format review (Word or pdf file) to the [eTDs website](#) by the specified deadline. Corrections and detailed instructions will be returned to you by e-mail within two weeks.
- Defend the dissertation and make any changes required by the committee. This can be done either before or after the format review, as long as deadlines are met. Receive approval from the committee in the form of signatures on the [doctoral signatory page](#).
- Review the dissertation one final time to be sure that no further changes are needed. It will not be possible to make corrections after final approval by the Thesis Office. Convert the file into a PDF for [eTDs](#) submission. If you cannot do this, contact the [Thesis Office](#) for assistance.
- Go to the [eTDs website](#) and upload the final eTD. Submit supporting materials to the Thesis Office. Supporting materials are:
 - Signed [Doctoral Signatory Page](#)
 - [ProQuest/UMI Agreement](#)
 - [Survey of Earned Doctorates](#)
 - \$95 dissertation fee. To pay this fee go to the [Payment Portal](#)
 - Note: It doesn't matter if you upload the dissertation first or submit supporting the materials first
- Await notification of eTD approval by e-mail. If changes are required, you will be notified. Your eTD will be accessible on the eTD website immediately after graduation unless you have restricted access (see top of Doctoral Signatory Page, see p. 34)

- If bound copies are needed, contact the [Multimedia & Print Center](#) on campus or you may use an off-campus source. All copies are the author's responsibility. The Graduate School does not provide copies.

XI. IST Graduate Program Policies

A. Credit Transfer Policy

The College of IST will follow the guidelines set by the Graduate School regarding credit transfers from an external institution. A maximum of ten credits may be transferred from an external institution. Transfer credits must meet the following criteria:

1. Have been earned at an accredited institution,
2. Be of "A" or "B" grade value ("B-" grades are not acceptable; pass-fail grades are not transferable unless substantiated by former institution as having at least "B" quality),
3. Appear on an official graduate transcript
4. Be earned within the five years prior to the date of registration to a degree program at Penn State.
5. Transfer credits may not have been used towards the fulfillment of a previous degree.

The grade obtained in the transferred course will appear on the student's official Penn State transcript.

Furthermore, IST will also enforce the following internal guidelines:

1. All credit transfer requests must be processed by May 15 of the end of the student's first year. No credit transfer requests will be accepted after this date.
2. Please refer to the Course Substitution Policy regarding credit transfers to be used for course substitutions, whether proposed for methodology or elective courses.
3. Students requesting credit transfers to meet credit requirements without specific course substitutions must submit the [Graduate School Credit Transfer Form](#) (see p. 39) to the Graduate Programs Office. The Graduate Programs Office will submit the form to the Graduate School.

*Please note that this policy works in conjunction with the IST Course Substitution Policy. Consequently, a student can only substitute a maximum of six transfer credits for the methodology requirement.

B. Course Substitution Policy

The College of IST will allow graduate students to substitute external courses for IST graduate courses to fulfill the IST graduate curriculum requirements. The College course substitution guidelines are below.

1. If a student wants to substitute a graduate course taken in another institution for an IST graduate course, the course must satisfy the following requirements.
 1. The course must be from an accredited institution.
 2. The student must have received an "A" or "B" grade value.
 3. The course must appear on an official graduate transcript.
 4. The course must have been taken within five years prior to the date of registration in the IST graduate program.
2. When requesting a course substitution, the student must submit a syllabus of the external course with an IST Course Substitution Request Form (see p. 37) to the Graduate Programs Office. The Graduate Programs Office will then send the request and syllabus to the instructor of the IST course for which the substitution is being requested. The student will be

notified by Graduate Programs to schedule a time to meet with the IST course instructor so that the course instructor can evaluate whether the substitution should or should not be allowed. The course instructor will sign the request form approving or disapproving the substitution. The student will then be notified of the decision.

Note: If the substitution is proposed for a course not currently taught in IST (e.g., a research methodology course), the syllabus review and determination will be conducted by the Graduate Programs Coordinator, in consultation as needed with the Graduate Programs Advisor and the Associate Dean for Education.

3. If the course substitution is not approved, the student may request a meeting with the Graduate Programs Coordinator and the instructor of the IST course. After this meeting, the Graduate Programs Coordinator will make a recommendation to the Associate Dean for Education to either uphold or overturn the original decision.
4. All course substitution requests must be submitted by May 15 of the end of the student's first year. No course substitution requests will be accepted after this date.
5. The course substitution process is an internal IST process and the course's grade will not appear on the student's PSU transcript.
6. Students will be able to substitute a maximum of ten credits. Of these ten credits, a maximum of six credits will be approved for meeting the methodology requirements.

*Please note that this policy works in conjunction with the IST Graduate Student Credit Transfer Policy. Consequently, a student can only substitute a maximum of six credits for the methodology requirements utilizing the credits allowed under both policies.

C. Specialization Area Course Waiver Policy

The College of IST requires graduate students to take a minimum of four courses (12 credits) to fulfill the specialization area requirement. The student should select these courses in consultation with his or her faculty advisor. The College will also accept courses from other accredited institutions to meet the specialization area requirement under the following guidelines:

1. The course must be from an accredited institution.
2. The student must have received an "A" or "B" grade value.
3. The course must appear on an official graduate transcript.
4. The course must have been taken within the five years prior to the date of registration to the IST graduate program.
5. To receive a specialization area course waiver, the student must submit the following to the Graduate Programs Office:
 - a. An IST Graduate Specialization Area Course Waiver Form (see p. 35) with the student advisor's signature.
 - b. An official transcript with the course and grade listed if the Graduate Programs Office does not have this already on file.
 - c. The syllabus for the course that is proposed for specialization waiver credit
6. All course waiver requests must be submitted by May 15 of the end of the student's first year. No course waiver requests will be accepted after this date.

D. Independent Study Policy

The College of IST allows students to take independent study courses with IST graduate faculty members to learn about areas that are not taught in regular IST graduate courses or in graduate courses in other department and programs. The College will use the following guidelines for the Independent Study policy:

1. Students requesting an independent study course must submit a completed Independent Study Form (see p. 22) to the Graduate Programs Office.

2. The maximum number of independent study credits a student can obtain is six. The maximum hours per independent study course is three but can range from 1-3 depending on the work proposed. These credits will count toward the specialization area requirements.
3. Independent study is not to be used for Ph.D. dissertation research. Rather, it is for students to do independent coursework on a subject that is not being offered in IST or elsewhere at Penn State.
4. The student must meet with the independent study instructor for the contact hours related to the number of requested credits. For example, a three-credit independent study would require three contact hours a week.
5. The output of the independent study course must be a deliverable that is relevant to the course and agreed upon by the student and the instructor.

E. Graduate Student Termination Policy

The College of IST Graduate Student Termination Procedure is derived from the University's policy, found in Appendix III of the Graduate Programs portion of the University Bulletin (http://bulletins.psu.edu/bulletins/whitebook/general_information.cfm?section=appendix3). This policy will pertain to both Ph.D. and M.S. students.

The termination decision process will be initiated by a recommendation from the student's adviser based on a poor academic record (e.g. transcript), no- or limited-progress in the student's research, lack of demonstrated effort, or a combination of the above. The termination recommendation will be reviewed by the Graduate Programs Coordinator, and with concurrence, the student will be notified by the Graduate Programs Coordinator that the termination process has been initiated. This termination recommendation then will be reviewed by the Graduate Advisory Committee. If approved by the GAC, the student will be notified in writing. The student will have 10 days to seek a review of this decision by submitting a written request to the Graduate Programs Academic Coordinator. The Graduate Programs Academic Coordinator will then have 30 days to arrange a meeting with the student and the faculty involved in the termination decision. Minutes of this meeting will be made available to all participants, and submitted to the GAC for final determination. The student will be notified in writing within five days if the decision has been sustained or reversed. If the decision is sustained, this recommendation for termination will then be considered by the Associate Dean in charge of graduate education, and subsequently by the Dean. If approved by the Dean, the student will be notified in writing providing the reasons for the termination, the evidence upon which the termination decision was made and notice of the right to appeal in writing to the Graduate School. Termination will be effective at the end of the semester in which the final decision is made.

F. Forms

Example of student forms can be found in Appendix B. To obtain IST graduate forms please visit the [Grad Programs Intranet](#). The Graduate School forms are available on the [Graduate School Website](#).

APPENDIX A

A MESSAGE TO ALL FACULTY, STAFF AND STUDENTS ABOUT REPORTING AND ASSISTANCE RESOURCES

As we welcome new and returning students to campus, all members of the Penn State community are asked to be mindful of their individual responsibility to help keep the University a safe and ethical institution and an accountable steward of University funds whether generated from state, federal, student, or any other sources.

The University does not condone wrongful conduct by any member of the Penn State community no matter what position he or she may hold.

Thus all members of the University community are urged to speak up if they see or suspect illegal, unethical, or unsafe conduct. If you do so, be assured that the University will protect you from retaliation. See [AD67](#) or contact the [Office of Ethics & Compliance](#) for more information.

The following resources are available for faculty, staff, students, and others:

TO MAKE A REPORT

Crime or emergency situation

- Contact the campus police or security office
- In an emergency, dial **911**

Child abuse, including child sexual abuse

- Contact the [Pennsylvania Child Welfare Services](#) "ChildLine" at **800-932-0313**
- If the child is in immediate danger, dial **911** first
- Penn State Authorized Adults (per AD72) are to also email AD72@psu.edu communicating that a report has been made. More information on [AD72](#)

Behavioral threat

- Contact the [Behavioral Threat Management Team](#) at **855-863-BTMT (2868)**, **814-863-BTMT (2868)**, reportBTMT@psu.edu

Bias or discrimination

- Contact the [Affirmative Action Office](#) at **814-863-0471**
- Visit the [Report Bias](#) website
- Students at University Park should call the Lion Support Help Line at 814-863-2020 to report acts of intolerance
- Students at other campuses may contact their campus Student Affairs office to report acts of intolerance

Sexual Harassment and other forms of sexual misconduct

- Contact the [Affirmative Action Office](#) at **814-863-0471** or another appropriate office listed
- To file a complaint outside of the University, contact:
 - The Office for Civil Rights (Philadelphia Office) at **(215) 656-8541** or email OCR.Philadelphia@ed.gov
 - The Equal Employment Opportunity Commission (Philadelphia District Office) at **800-669-4000**
 - The Pennsylvania Human Relations Commission (Harrisburg Regional Office) at **714-787-9780**

Research-related

- Contact the [Office for Research Protections](#) at **814-865-1775** or ORProtections@psu.edu

Suspected ethical or policy violations

(including fraud, theft, conflict of interest, retaliation, athletics compliance)

- Use Penn State Ethics and Compliance Hotline at **800-560-1637** or <http://www.mycompliancereport.com/brand/psu>. Both are anonymous and available 24/7

TO ASSIST VICTIMS

Sexual violence, sexual abuse or sexual harassment

- The Penn State Sexual Assault and Relationship Violence Hotline is available 24/7 at **800-550-7575 (TTY 866-714-7177)**
- The [University's Sexual Harassment and Assault Reporting and Education](#) (SHARE) website, which includes a list of sexual assault resources for each campus location
- The University-wide designated sexual harassment resource person for students, regardless of sex or gender, is the Director of the [Center for Women Students](#) at **814-863-2027**
- The University-wide designated sexual harassment and sexual misconduct resource person for employees is the Vice Provost for Affirmative Action at **814-864-0471**
- For University Park, the Centre County Women's Resource Center Hotline is available 24/7 at **814-234-5050** or **877-234-5050**

All others

- Contact the [Center for Counseling and Psychological Services](#) (CAPS) at **814-863-0395**
- Contact the [Employee Assistance Program](#) (EAP) at **866-799-2728**

RESOURCES

All employees should be aware of Penn State's Conflict of Interest policy. Please see the following for more information:

- <http://news.psu.edu/story/143476/2013/01/04/employees-reminded-disclose-conflicts-interest>
- Policy [HR91](#) – Conflict of Interest
- Policy [RA20](#) – Disclosure and Management of Significant Financial Interests:
- Policy [AD86](#) – Acceptance of Gifts and Entertainment

If it is not clear where to turn for assistance, any of these offices will guide the individual to someone who can help:

- [Office of Human Resources Employee Relations Division](#) at **814-865-1412**
- [Office of University Ethics and Compliance](#) at **814-867-5088**
- [Office of Affirmative Action](#) and Title IX Coordinator at **814-863-0471**
- [Office of Student Conduct](#) at **814-863-0342**
- [Office of Internal Audit](#) at **814-865-9596**
- [Clery Act](#) Compliance Manager at **814-863-7459**
- Your campus, college, or unit's Human Resources representative. Contact information is available <http://ohr.psu.edu/hr-representatives>

TRAINING

Training is available on many of the above topics. Please contact the [Office of Human Resources' Center for Workplace Learning and Performance](#) at **814-865-8216**

APPENDIX B
UNIVERSITY & COLLEGE OF IST FORMS



STUDENT/ADVISER

AGREEMENT FORM

Name _____ PSU ID# _____

STUDENT

I agree to have _____ as my adviser for my M.S. / Ph.D. (circle one) studies at IST.

Student Signature Date

ADVISER

I agree to advise _____ during their M.S. / j Ph.D. (circle one) studies at IST.

Adviser Signature Date

Return form to Grad Programs, 321F IST Building for Graduate Program Coordinator approval.

Grad Program Director Signature Date

**STUDENT/CO-ADVISERS
AGREEMENT FORM**

Name _____ PSU ID# _____

STUDENT

I agree to have _____ and _____ as my advisers for my Ph.D. studies at IST.

Student Signature

Date

CO-ADVISERS

We agree to advise _____ during his/her Ph.D. studies at IST.

Co-Adviser Signature

Date

Co-Adviser Signature

Date

Return form to Graduate Programs in 321F IST Bldg. for Grad Program Coordinator approval

Grad Program Coordinator Signature

Date

Request for Independent Study* IST 596 2015-2016

IST 596 is available for all graduate students. However, you are responsible for finding an IST faculty member willing to serve as your instructor. Please complete the following information with the instructor. ***Please remember, you are only allowed to take a maximum of 6 units' total (3 per semester) of IST 596 and it must have a deliverable.***

Name of Student: _____ PSU I.D. #: _____

Email: _____

Faculty member you will be working with: _____

Number of credits for which student is enrolling: _____

Semester for which student is enrolling: please CIRCLE appropriate semester/session

FA 2015 SP 2016 SU 2016 (1st 6-week) SU 2016 (2nd 6-week) SU 2016 (all semester)

Brief description of course - **Please complete full description on back page as well.**

A statement indicating why the applicant's interest cannot be served by a regularly scheduled Penn State course:

Approved:

Instructor: _____ Date: _____

Grad Director: _____ Date: _____

Fill out back side and return form to Graduate Programs, 321F IST Bldg., to obtain Grad Coordinator's signature and add the course.

***Be sure you fully understand how your independent study credits will be used in your overall plan of study.**

Request for Independent Study (Page 2)

Title:

Course Description:

Learning Objectives:

Course Activities:

Assessment (Please be specific on how the course activities will be assessed):

Meeting Times (Please be specific on when you will meet with the instructor):

College of Information Sciences and Technology

Request for Research Study Credits 2015-2016 IST 594/600/601/610/611

IST 594, 600, 601, 610 and 611 research courses are available for all IST graduate students. Please complete the following information with the faculty member who is directing (Chair of your committee) your thesis/project or dissertation research.

Please circle appropriate course and semester below (and fill in credits if appropriate).

Name of Student: _____ **I.D.** _____

Email: _____

Faculty Member who is directing your research (Chair of your committee) _____

MASTERS STUDENTS OR PHD STUDENTS WHO STILL HAVE COURSE REQUIREMENTS TO MEET.

IST 594 – Number of credits for which student is enrolling: _____

A letter grade is not assigned for these courses—you will receive a grade of “R” for successful project research completion. If project research is unsatisfactory, you will receive an “F”.

IST 600 – Number of credits for which student is enrolling: _____

A letter grade is not assigned for these courses—you will receive a grade of “R” for successful thesis research completion. If thesis research is unsatisfactory, you will receive an “F”.

IST 610 – part-time research -- only to be used by students not in residence.

Number of credits for which student is enrolling: _____

A letter grade is not assigned for these courses—you will receive a grade of “R” for successful thesis research completion. If thesis research is unsatisfactory, you will receive an “F”.

PHD STUDENTS—successfully completed comps and no longer need to take courses.

IST 601 is full-time dissertation research on-campus. Number of credits for which you are enrolled is Zero (0)—however, **your enrollment will reflect full-time status.**

IST 611 is part-time dissertation research off-campus. Only to be used by students not in residence.

Number of credits for which you are enrolled is Zero (0)—**your enrollment will reflect part-time status.**

Semester for which student is enrolling: please CIRCLE appropriate semester/session

FA 2015 SP 2016 SU 2016 (1st 6-week) SU 2016 (2nd 6-week) SU 2016 (all semester)

Approved:

Faculty: _____ **Date:** _____

Grad. Program Approval: _____ **Date:** _____

Return form to Graduate Programs, 321F IST Building to add course.



College of Information Sciences and Technology
Graduate Programs

Exam Request Form

_____ Ph.D. Dissertation Proposal (Oral Comprehensive)
_____ Final Thesis/Dissertation Defense (M.S. or Ph.D.)
_____ Oral Presentation (M.S.)

Name of Student: _____ Student ID: _____

Degree: _____ Date of Exam: _____ Time: _____

Title of Proposal/Thesis/Dissertation/Paper: _____

Note: Please send electronic copy of thesis/dissertation abstract to Michelle Hill mhill@ist.psu.edu if your last name begins with A-M, or Jaclyn Stimely jstimely@ist.psu.edu if your last name begins with N-Z, seven to ten days before exam date.

Room will be scheduled by Graduate Programs office: Room _____

Committee Chair: _____

Committee Co-Chair: _____

Major Field Member(s): _____

Outside Unit Member
(formerly External Member) Email Address _____

Outside Field Member:* _____

Special Member: _____
Email Address _____

Minor Field Member: _____

*Can be the same as the Outside Unit Member.

If a committee member cannot be present, due to extenuating circumstances, we need to know as soon as possible so that we can get Graduate School permission.

Return form to IST Graduate Programs Office. Thank you.

Information Sciences and Technology (IST) Graduate Student Annual Evaluation Form <i>Instructions: Complete/discuss with adviser, both of you sign/date, submit to Grad Office <u>with current CV</u></i>		
Student name: _____ PSU ID: _____ Date: _____ GPA: _____ PSU Graduate Credits: _____	IST Program: <input type="checkbox"/> Masters <input type="checkbox"/> Ph.D.	
Cohort/year entered IST graduate program: _____	Program Milestones: Candidacy Date: _____ Comprehensive Date: _____	
Adviser's Name: _____	_____	
Recent coursework (Sum2014; Fall2014; in progress Spr2015)	Term	Grade
Were you a TA during Sp14, Su14, Fa14? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, please list course(s) _____ Grad Programs Review: <input type="checkbox"/> No unsatisfactory TA evals. <input type="checkbox"/> Unsatisfactory TA evals.		
In what ways have you collaborated on research or other activities over the past year – with your adviser, with other IST professors, or with any other collaborators? 		
Please list papers, conferences, presentations or posters that have been submitted or accepted: 		

How would you characterize your current progress in relevant research understandings and skills (please explain)?

Are you satisfied with your progress – why or why not? What can you or others do to help you?

What are your current feelings about your academic progress, e.g. coursework that is required or expected of you, milestones that you have completed or are striving to achieve?

Adviser's overall rating: ☐ Exceptional ☐ Exceeds Expectations ☐ Meets Expectations ☐ Needs Improvement
☐ Fails to Meet Performance Expectations

Adviser's comments generated DURING advising meeting to explain/justify rating (if rating is less than meets expectations, please provide specific details):

Student signature

Date

Adviser Signature

Date

Co-Adviser Signature (if applicable)

Date

Graduate Programs Coordinator Comments:



IST Audit– Ph.D. Effective Fall 2013

Name _____ Student Number: _____

Adviser _____

Ph.D. Core Course Requirements: 17 cr. **Semester Taken**

IST 501 – 6 cr. _____
IST 510 – 3 cr. _____
IST 520– 3 cr. _____
IST 530 – 3 cr. _____
IST 590 – 2 cr. _____

Transfer credits: (10 credits maximum)

Course: _____ 3 cr. _____
Course: _____ 3 cr. _____
Course: _____ 3 cr. _____
Course: _____ 3 cr. _____

Research Methodology – 12 cr. (graduate level courses)

Semester Taken

Course: _____ 3 cr. _____
Course Title: _____
Course: _____ 3 cr. _____
Course Title: _____
Course: _____ 3 cr. _____
Course Title: _____
Course: _____ 3 cr. _____
Course Title: _____

Candidacy:

Date Completed _____

Comprehensive Exam

Date Completed _____

Final Exam

Date Completed _____

Specialization Courses – 12 cr. (maximum 400 level credits: 6)

Semester Taken

Course: _____ 3 cr. _____
Course: _____ 3 cr. _____
Course: _____ 3 cr. _____
Course: _____ 3 cr. _____

Check for graded 600/research credits.
No more than 12 allowed. _____

Adviser signature _____ Date _____

Student signature _____ Date _____

Grad Programs Approval _____ Date _____

Employment Agreement for Graduate Teaching Assistants

Section I: Terms of Employment

College: Information Sciences & Technology_____

Student's Name: _____ Email: _____

Professor: _____

Course: _____

Semester/Year: _____ Hours/week: _____

Teaching Assistants (TA's) and Instructional Assistants (IA's) are graduate students who support instructors with teaching- and learning-related tasks in College of IST courses. TA's and IA's are assigned to particular instructor(s) to work on particular course(s).

Mandatory Responsibilities:

Attend class

Meet with instructor, as determined by instructor

Communicate with supervising instructor, any additional teaching staff, and students in the course

Prepare for specific teaching- and learning-related assignments

Additional Responsibilities:

As assigned by the supervising instructor (See Section II for a complete list of possible responsibilities.)

Feedback and Evaluation:

Formative feedback should be given to the TA/IA at mid-semester (ideally, to be completed by students and by the instructor). Feedback should be shared between TA/IA and instructor only. A performance evaluation should occur at the end of the semester (ideally, to be completed by students and by the instructor). The results should be shared with the TA/IA and instructor and filed in the Research & Education Office to be used in making future assignment and funding decisions.

Training:

TA's must take 1 credit of IST 602: Supervised Experience in College Teaching prior to or during their first semester as a teaching assistant.

Type of Assignment:

Complete = 20 hours per week for one course

Split = 10 hours per week for one course and 10 hours per week for a second course

Signatures on this page indicate agreement on the responsibilities checked in section II.

Teaching/Instructional Assistant's Signature

Date

Instructor's Signature

Date

Section II: Graduate Teaching Assistant Responsibilities

The following responsibilities are mandatory for all Teaching Assistants.

Communication with Instructor and Students Outside of Class

- Meet with instructor on a regular basis (usually once a week or biweekly) to discuss enrolled students' progress and/or to get briefed on upcoming class lessons/assigned work
- Respond promptly to instructor's and, if applicable, students' requests via specified means of communication

Preparation

- Review (or complete, if you never have) assigned readings, class assignments, and/or research for the course
- Organize materials (e.g., survey results, search results, class handouts) ahead of meetings and/or class sessions

Attendance

- Attend all instructor meetings, class sessions, and/or outside lectures as designated by instructor
- Provide advance notice to instructor and other teaching staff for the course if unable to attend meetings or class sessions due to sickness or other reasonable excuse

Section II: Graduate Teaching Assistant Responsibilities (continued)

The following responsibilities must be negotiated between the instructor and the Graduate Teaching Assistant.

___ *Preparing Course Materials and Exercises*

- ___ Review readings, slides, examples for class with an eye toward students' understanding and interest
- ___ Search for websites or materials needed for newly developed course activities
- ___ Take and time quizzes/exams; identify items that don't work well
- ___ Complete newly developed course assignments, estimate time to complete work, and locate problems
- ___ Check in with instructor 10 minutes prior to class for last-minute things to be done
- ___ Set-up technology (e.g. computers, projectors, networks, clickers, websites) for class, if necessary

___ *Coaching*

- ___ Listen to and help facilitate students' work on in-class assignments
- ___ Coach students who need help with individual, in-class work
- ___ Explain in-class assignments when tasks are unclear
- ___ Hold review sessions prior to exams/quizzes
- ___ Hold scheduled office hours to tutor students

___ *Team Management*

- ___ Assist instructor in creating teams
- ___ Read team minutes and projects, to keep abreast of what teams need help with
- ___ Help teams keep on task with in-class group activities

___ *Classroom Management*

- ___ Monitor quizzes and exams for cheating
- ___ Encourage student engagement, attentiveness (e.g., enforcing computer use policies)
- ___ Take attendance

___ *Feedback for Faculty on Students' Learning*

- ___ Create a message board for the students to post questions
- ___ Observe what students understand best and least so instructor knows what to review
- ___ Administer surveys and/or conduct "Classroom Assessment Techniques" (CAT's)

___ *Grading and Feedback on Students' Work*

- ___ Provide ungraded feedback on homework assignments and projects
- ___ Assist instructor in creating grading rubrics
- ___ Grade assignments and exams
- ___ Record grades in grade book
- ___ Communicate grades to students
- ___ Provide item analysis for exams and/or common misunderstandings for assignments

___ *Teaching*

- ___ Run lab associated with course
- ___ Hold occasional recitation sections
- ___ Substitute occasionally for course instruction

Additional Responsibilities

Section III: Suggestions for Instructors Working with Graduate Teaching Assistants

First Day of Class

- Explain the role of the TA to students enrolled in class
- Allow TA to introduce himself/herself

Communication with TA

- Meet with TA on a regular basis (usually once a week or biweekly) to brief TA on upcoming class lessons
- Provide performance feedback to TA at mid-semester and at the end of the semester (forms distributed by PIC office)

Class Preparation

- Prepare materials to be handed out in class in time for TA to distribute
- Check with TA 10 minutes prior to class to determine if anything needs to be done

Coaching in Class

- Invite TA to assist with group and individual work during class
- If necessary, assign TA to specific teams to help keep students on task

Team Management

- Provide the TA information and guidelines for constructing teams if s/he will be assigned to create teams for the course
- Outline role of TA in intervening with troubled teams
- Brief TA on what teams should be doing in in-class group activities (e.g., give TA key questions to ask of groups), so that the TA knows how to help keep teams on task during in-class activities
- Give TA access to team minutes, wikis, and projects if TA is to keep abreast of teams' work

Classroom Management

- Give TA access in ANGEL or the CMS necessary to see course materials in advance of the lesson
- Outline attendance procedures and any other procedures TA is responsible for
- Determine whether you will ask TA to help maintain desired classroom environment
- Provide guidelines to TA on what to say and what not to say if TA monitors quizzes and exams

Feedback on Students' Learning

- Determine if you want TA to set up message boards or other forums to collect student questions
- Design surveys with TA if you want to collect information on how students are learning

Grading and Written Feedback on Students' Work

- Coach TA on the kind of feedback to provide on homework assignments and projects
- Familiarize TA with your grading rubrics
- Make grading policies and procedures clear to TA
- Define your expectations for how you want grading done

Teaching

- Coach TA in professional skills needed for any labs, recitations, and/or substitute teaching
- Assist in preparing and/or reviewing materials for TA to use in lab, recitation, and/or substitute teaching
- Schedule any substitute teaching in advance

**COLLEGE OF INFORMATION SCIENCES AND TECHNOLOGY
DOCTORAL COMPREHENSIVE EXAMINATION
DISSERTATION PROPOSAL APPROVAL**

This supplemental form should be completed by Committee Members as part of the Comprehensive Examination. In this assessment, please consider the proposal content provided by the student.

NAME: _____

PSU ID: _____

Exam Date: _____

Proposal Readiness			Committee Review Required to Proceed		Committee Member Names & Signature
Acceptable To Proceed	Needs Revisions	Needs Complete Overhaul	Yes	No	

Specific areas of concern: (and suggested remediation)

☐ None

☐ Literature Review:

☐ Methodology:

☐ Other:

DOCTORAL SIGNATORY PAGE

Name of Student _____ Penn State ID _____
Email address(s) _____

I hereby certify that I have obtained the necessary permission for copyrighted material included in my dissertation and choose that the document be placed in the eTD archives with the following status:

___ **1. OPEN ACCESS** — Allows free worldwide access to the entire work beginning immediately after degree conferral. Appropriate for the majority of thesis submissions in fulfilling the requirement for making the work available to the public.

___ **2. RESTRICTED (PENN STATE ACCESS ONLY) FOR A PERIOD OF TWO YEARS*** — Access restricted to individuals having a valid Penn State Access Account. Allows restricted access of the entire work beginning immediately after degree conferral. At the end of the two-year period, the status will automatically change to Open Access. *Intended for use by authors in cases where prior public release of the work may compromise its acceptance for publication*

___ **3. RESTRICTED FOR A PERIOD OF TWO YEARS FOR PATENT DEVELOPMENT** — Restricts the entire work for patent and/or proprietary purposes. At the end of the two-year period, the status will automatically change to Open Access. Selection of this option requires that an invention disclosure (ID) be filed with the Office of Technology Management (OTM) prior to submission of the final thesis and confirmed by OTM and Office of Theses and Dissertations.

Confirmed _____

Signature of Student

Date

FACULTY APPROVAL

We ***accept and approve*** the dissertation of the student named above and agree to distribution as indicated.

Signature _____ Date _____
Print name here _____

Signature _____ Date _____
Print name here _____

Signature _____ Date _____
Print name here _____

Signature _____ Date _____
Print name here _____

Head or Chair of Graduate Program

Signature _____ Date _____
Print name here _____

*Requests for a two-year extension can be made by contacting the Office of Theses and Dissertations (gradthesis@psu.edu) 30 days prior to the expiration of the restriction.

Specialization Area Course Waiver

INSTRUCTIONS:

Students are responsible for filling out page one of this form, obtaining their advisor's signature and submitting to the Graduate Programs Office.

Date: _____ Student Name: _____

PSU ID#: _____ Phone #: _____

Email address: _____

I request a review of _____ to determine if it can be counted towards my specialization area.

Have you completed the course at this time? YES _____ NO _____

Justification (by student)

Adviser's Statement

_____ This course can be used towards the specialization area.

_____ This course cannot be used towards the specialization area. (Please provide a brief statement about why this course is not equivalent).

Signature of Adviser

Specialization Area Course Waiver Approved
Specialization Area Course Waiver Not Approved

Director of Graduate Programs

Course Substitution

INSTRUCTIONS:

Students are responsible for filling out page one of this form and submitting a syllabus of the external and Penn State course to the Graduate Programs Office.

Date: _____ Student Name: _____

PSU ID#: _____ Phone #: _____

Email address: _____

I request a review of _____ to determine if it is equivalent to Penn State course _____.

Have you completed the course at this time? YES _____ NO _____

Justification (by student)

Graduate Coordinator Statement:

_____ This course is equivalent to the above Penn State course. Approved

_____ This course is not equivalent to the above Penn State course (Please provide a brief statement about why this course is not equivalent). Not Approved

Signature of Graduate Programs Coordinator

Transfer of Credit from an External Institution

Office of Graduate Enrollment Services, The Pennsylvania State University, 114 Kern Building, University Park, PA 16802-3396; (814) 865-1795; (814) 863-4627

Date: _____

From (Program Name): _____

To: Office of Graduate Enrollment Service, 114 Kern Building

Transfer credits must meet the following criteria: (1) MUST have been earned at a regionally accredited U.S. institution or an officially recognized degree-granting international institution, (2) MUST be of "A" or "B" grade value ("B-" grades are not acceptable; pass-fail grades are not transferable unless substantiated by former institution as having at least "B" quality), (3) MUST appear on an OFFICIAL graduate transcript, and (4) MUST be earned within the five years prior to the date of registration to a degree program at Penn State.

Student name (last, first, middle initial)

Student Number

Degree (M.A., D.Ed., etc.)

Graduate Major

Institution where credits were earned

Total credits to be transferred
(Quarter credits must be converted to semester credits)

Title of course(s) to be transferred
to the students program

Term Earned
(F, SP, W, SU)

Year Earned

PSU Level Equivalent
(400, 500, 800 Series)

Graduate Adviser's Signature (Mandatory)

Please print adviser's name

Date



The GRADUATE SCHOOL