THE COLLEGE OF TECHNOLOGY

PH.D. GRADUATE STUDENT HANDBOOK

Assembled by
the Graduate Faculty
in the
College of Technology

PURDUE
UNIVERSITY

West Lafayette, IN

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College of Technology Ph.D. Graduate Student Handbook

NOTE: This document supersedes the Graduate School Policies & Procedures Guide.

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SECTION 1.0. INTRODUCTION

Section 1.0 of this document provides an overview to general information graduate study in the College of Technology.

1.1. <u>General Information</u>

The College of Technology (CoT) offers graduate instruction leading to the Master of Science (M.S.) and the Doctor of Philosophy (Ph.D.) degrees. The Master's degree enables students to concentrate on professional development studies in technology or technology education in any of the disciplinary foci and/or areas of concentration (see table 1) offered by the college. Note that some areas of concentration may include more than one area of disciplinary focus. Both thesis and non-thesis routes are offered through the Master's program. The Ph.D. program's primary focus is to prepare faculty, researchers, specialists, managers and administrators for leadership in technological- and engineering-related careers in academia and industry.

Table 1.1. *Disciplinary Foci and Areas of Concentration*

Disciplinary Foci	Areas of Concentration
- Aviation Technology - Building Construction Management Technology - Computer Graphics Technology - Computer Integrated Manufacturing Technology - Computer Technology - Electrical & Computer Engineering Technology - Industrial Technology - Mechanical Engineering Technology - Organizational Leadership and Supervision	- Advanced Manufacturing—MS - Applied Computer Graphics—MS - Aviation and Aerospace Management—MS - Aviation Human Performance—MS - Building Construction Management—MS - Computational Science—MS & Ph.D. - Cyber Forensics—MS thesis only - Information Security—MS - Information Technology—MS - Industrial Technology—MS - Organizational Leadership—MS - Perceptual and Scientific Visualization—MS - Product Innovation and Development—MS - Sustainable Energy Systems—MS

Specific information about the College of Technology graduate program may be obtained from the web page at *http://www.tech.purdue.edu/academics/graduate/*. Written inquiries may be directed to Associate Dean for Graduate Studies, College of Technology, Rm. 150 Knoy Hall, Purdue University, 401 N. Grant, West Lafayette, IN 47907-2021, phone 765-494-6875.

This document mainly addresses the Doctor of Philosophy and general graduate procedures. A separate document, CoT M.S. Handbook, is available from the College of Technology Graduate Studies Office to describe the College's M.S. programs and procedures.

1.2. **Ph.D. Program Vision**

The College of Technology is committed to its graduate program and to offering the technology profession's leading Ph.D. and Master's programs. These graduate programs implement its scholarly responsibility to advance the disciplines of technology and to develop advanced level professionals who engage in technology, technological education, and related leadership. The faculty recognizes a genuine responsibility to prepare future scholar-practitioners for the technological enterprise in both public (education and government) and private sector environments. The Ph.D. program represents the College's most advanced manifestation of this commitment.

1.3. **Ph.D. Program Purpose**

Through the doctoral program faculty seek to provide degree candidates with the knowledge and skills necessary to advance the discipline and its practice. The primary purposes of the program are to prepare scholarly faculty for technology education programs throughout the nation and world, and advanced leader/researchers for public and private sector environments employing such levels of personnel. In doing so, the program also develops the concomitant skills involved in technology-relevant knowledge development, synthesis, and assessment. Candidates may also prepare for leadership roles in fields such as technology transfer, technology human resource development, technology teaching, or supervision of technology in private and public sector agencies.

Graduates of the program are expected to demonstrate an appropriate level of mastery of the discipline of technology, both in general and with respect to the technological focus built into their program. Given this, the program is structured to enable the development of the technological focus as well as a broad understanding of the discipline.

Successful Ph.D. candidates will demonstrate advanced ability to:

1. Envision, plan and conduct research and development activities;
2. Identify, comprehend, analyze, evaluate and synthesize research;
3. Evaluate technologies and technology-related programs;
4. Assess individual performance with, and understanding of, technology;
5. Communicate effectively and employ constructive professional and interpersonal skills; and
6. Function in one or more of the technology disciplines.

1.4. **Ph.D. Program Overview**

The College of Technology's Ph.D. program is based on practices at Purdue University and other leading institutions. These include a requirement for a minimum of 90 credit hours above the bachelor's degree, maintenance of a B or better grade point average, and satisfactory progress each semester. At least one third of the total credit hours used to satisfy the degree requirements must be earned in continuous residence at Purdue. Ph.D. students have five years from passing their preliminary examination at the end of their coursework in which to finish their degree requirements.

Ph.D. advisors, working interactively with the student, will consider all prior graduate coursework accepted for transfer into the program while developing the Plan of

Study (POS). In addition to a technology focus, each plan of study will include a solid discovery foundation sequence of research courses and a cognate, which is designed to add depth and a second discipline's perspective to the student's research or professional goal-related field. A dissertation will serve as both a culminating synthesis experience and a visible demonstration of performance.

The College of Technology's Ph.D. program consists of four components as shown in Table 1.1. Further details of this program are described in section 4.0.

Table 1.1. *The Four Components of the CoT Ph.D. Program.*

Technology (the major/field of specialization)	21 cr minimum
Discovery Foundations (research methodology, statistics and experimental design)	12 cr minimum
Cognate (from any appropriate Purdue college or school other than Technology)	12 cr minimum
Dissertation Research	15 cr minimum
Total Hours beyond the Master's degree	60 cr minimum
Master's degree	30 cr maximum
Total Graduate Study	90 cr minimum

The College of Technology's Ph.D. program *Technology Major* component is used to develop 21st century cognitive skills by means of a set of core courses and an additional set of courses creating a technology focus. Courses from any of the College's departments may be used in this component.

The intent of the *Cognate* component is to enable candidates to establish a supportive area of competence relevant to the candidate's career objective. Typically the cognate consists of 12 semester credit hours of coherent courses. The validity of the cognate is attested to by a doctoral level graduate faculty member who serves on the candidate's Ph.D. program committee.

The intent of the *Discovery Foundations* component in the program is to develop a mastery of a solid set of research, development, and discovery skills sufficient to enable the candidate's dissertation research project and the critical evaluation of the research of others. As a direct consequence of this degree component, CoT Ph.D. candidates are expected to be able to design, conduct, and report research knowledge and development activities and outcomes as dictated by the field.

SECTION 2.0. ADMISSION POLICIES AND PROCEDURES

Section 2.0 of this document provides an overview to the requirements, types of admission, time limits and opportunities for financial assistance relative to graduate study in the College of Technology.

2.1. Background on Ph.D. Admission

Ph.D. applicants are admitted through an evaluation process of the graduate faculty in the College of Technology. A controlled enrollment approach ensures that only a manageable number of highly talented degree aspirants with genuine academic leadership potential are admitted. It is the CoT's goal that every admitted Ph.D. graduate student has the opportunity to be supported by one of the CoT's research and development projects or teaching assignments.

Persons seeking admission to the program should have relevant prior coursework and experience in the discipline to ensure a significant potential for success in the program. Additionally, a requirement for acceptance is that a match exists between the applicant's goals and interests and that of the program's intent and the faculty research. When faculty, in their judgment, identify deficiencies in either the applicant's formal education or experiential background, they have a responsibility to require appropriate prerequisite experiences in addition to the standard program requirements.

2.2. Admission Criteria

The admissions process selects highly qualified applicants into the CoT's Ph.D. program by considering each of the following criteria in judging the overall strength of the applicant. Typically, no criterion is used as a sole determinant for admission.

- A graduate GPA of 3.5 or better and an undergraduate GPA of 3.25 or better (or equivalent class rank) from accredited institutions and in programs with specific relevance to technology will be required for unconditional admission.
- A relevant earned Master's degree.
- A four-year undergraduate degree or an undergraduate degree that conforms to the Bologna Accords.
- GRE or GMAT scores at or above the 50th percentile (for each subscale) are required for unconditional admission. Note, pursuant to ETS' recommended practice, the program does not require a specific minimum score.
- At least two years of relevant work experience is preferred as is breadth in educational experience.
- Review and recommendation for acceptance by the relevant department's graduate faculty at least one of which is willing to serve as major professor.
- A statement of purpose judged to be a good fit for the College's Ph.D. program mission.
- A positive admission interview report evidencing oral English proficiency
- Personal and professional characteristics commensurate with success in the profession

- International applicants whose first language is not English and who have not graduated from a University or College using English as the primary language of instruction, must present a TOEFL score of 560 (paper test or the equivalent on the computer based examination) or higher
- Demonstration of a high level of competence in written communication as evidenced by a writing sample such as a thesis or other significant and personally written product.

2.3. <u>Application Requirements</u>

All applicants are required to submit the following items to create an application package suitable for effective review of the applicant's potential for success in the College of Technology's Ph.D. program:

- Purdue University Graduate School On-Line Application Form and applicable fees.
- A detailed reflective statement of purpose highlighting career goals, capabilities to be developed, and a self assessment highlighting both strengths and weaknesses.
- A detailed resume or curriculum vita.
- Transcripts of all universities or post-secondary institutions attended.
- Official GRE (preferred) or GMAT scores.
- A writing sample that documents a high level of competence in written communication such as a thesis or other significant, personally written product.
- At least three letters of recommendation from faculty with an earned doctoral degree or others deemed qualified to judge potential for success in research and Ph.D. programs.
- Official TOEFL score (if required).
- Documentation of financial support (required only for international applicants).

2.4. <u>Admission Procedures</u>

- Applicants complete Purdue University's On-Line electronic application and submit the Graduate School's application fee.
- Applicants submit all other application materials to the College's Graduate Office.
- The College of Technology Graduate Office assembles complete application package for internal review.
- The completed application package is routed to the relevant department in the College of Technology for review.
- At least one of the reviewers interviews the candidate, if possible. Although in-person interviews are desirable from both the CoT and applicant perspective, alternative procedures (such as telephone interviews) may be employed.
- Faculty review package and report assessment to the College of Technology Graduate Office.

> ***NOTE:*** *It is the responsibility of every international student applicant to supply all documentation needed by the United States Immigration and Naturalization Service and Purdue University to establish eligibility for entrance into the USA as a student. This necessarily includes documentation of sufficient financial resources to sustain the anticipated period of study.* ***International graduate students must not begin to travel to Purdue University until formally notified of their acceptance by the Graduate School.***

2.4.1. Admissions Recommendations

Departmental admission recommendations to the College of Technology Graduate Studies office may be one of the following:

- Admit without conditions,
- Admit with conditions (and these conditions must be specified), or
- Deny.

Departmental admission recommendations are forwarded to the College of Technology (CoT) Associate Dean for Graduate Studies for review and recommendation to the Purdue University Graduate School.

2.4.2. Admission Deadlines

Candidates for admission must have submitted all necessary application materials by the following deadlines:

- February 15th for summer admission (for international students applying from outside the US).
- April 1st for summer admission (for domestic students and international students applying from inside the US).
- April 1st for fall admission (all students).
- September 1st for spring admission (for international students applying from outside the US).
- October 1st for spring admission (all domestic students and international students applying from inside the US).

2.5. <u>Conditional Admission</u>

For those students admitted who do not meet unconditional admission criteria to the Ph.D. program, certain other performance elements may be considered. For example, substantial career accomplishment as evidenced by the resume or high performance on the Graduate Record Examination may indicate that student potential for success is not adequately reflected in their prior academic record.

In particular, faculty reviewers of graduate applicants note the level of communication (oral and written) proficiency documented by the applicant and in cases where performance is below expectations, e.g., as demonstrated by a low GRE Verbal

score, faculty may consider establishing English development experiences in addition to the program's normal requirements.

Conditional admission requires that certain minimum performance standards be established, such as "must achieve at least a 3.00/4.00 graduate index at the completion of the first 12 credits following admission to the degree program." In addition, admission committees may require certain prerequisite coursework to satisfy a deficiency in the student's background.

Academic conditions of admission for all conditionally admitted students will be monitored by the College of Technology's Graduate Studies Office and/or the Graduate School, depending on who has imposed the condition. Each semester the Graduate School will remove the eligibility to register for future sessions for all students who failed to satisfy their conditions of admission in the previous session. Thus, there is a grace period of one semester.

Departments are to justify and indicate any conditions under which these students should have their eligibility to register restored and be allowed to continue to study for the degree. This is requested by a memo from the *major professor* and routed through the College's Associate Dean for Graduate Studies, detailing reasons why the student should be permitted to continue. Upon Graduate School approval, the eligibility to register will be restored.

2.6. <u>Time Limitation</u>

Student pursuing the Ph.D. degree have up to eight years to complete their program, however this maximum should be required only in rare circumstances. If the student exceeds these limits, the student may be dismissed for lack of satisfactory progress or, when circumstances are justified, may be required to retake some courses or take new courses to replace out-of-date courses. Typically, students complete their coursework in three (3) years, and complete their preliminary examination at the end of that period. Ph.D. students then have five (5) years from passing their preliminary examination in which to complete their degree requirements.

> *NOTE: Continuous registration is required once the student begins coursework. Students deemed not to be making satisfactory progress will be afforded one opportunity to justify progress to their program committee. To continue in the program, such students require the consent of their Ph.D. committee and the Associate Dean for Graduate Studies. Otherwise they will be dropped from the program.*

2.7. <u>Financial Assistance</u>

The following two sections describe the availability of financial assistant and information about assistantship appointments and fellowships.

2.7.1. Availability

A limited number of graduate teaching and research assistantships from departments within the College of Technology are available. All assistantship

applications are to be directed to the Department Head of the appropriate department. Additional appointments are available from other elements of the University, such as the library system and student housing. Details on assistantships and fellowships outside the College of Technology are available at Purdue University's Graduate School web site at http://www.gradschool.purdue.edu/funding/. Additional information may be available from the College of Technology Department Heads.

2.7.2. Assistantship Appointments

In order to provide opportunity for the student to progress satisfactorily toward the degree objective, graduate appointments will ordinarily be for no more than one-half time and for a maximum of three (3) academic years for Ph.D. students. Renewal of graduate appointments for additional time will be based on satisfactory performance in the position and academic performance toward plan of study requirements, as well as availability of positions.

Teaching assistantships (TA) and Research Assistantships (RA) include a tuition waiver during the semester the student has the assistantship. Normally teaching assistantships are not available in the summer. However, if a student has a teaching assistantship in the spring and the following fall semester, a tuition waiver for the summer is still available to the student.

> ***NOTE:*** *Assistantships DO NOT cover the cost of student fees assessed each semester.*

2.7.3. Fellowships

Purdue University's Graduate School administers many university wide and national fellowship and scholarship programs. Students are advised to consult their website at http://www.gradschool.purdue.edu/funding/ for the latest information on such opportunities.

SECTION 3.0 POLICY ON MONITORING, PROBATION, AND DISMISSAL

Section 3.0 provides an overview to the monitoring, probation, dismissal and appeal policies in the College of Technology.

3.1. Minimum Cumulative GPA Requirements (in graduate courses)

The College of Technology has specific GPA requirements for graduation as shown in Table 3.1. Typically these mimic the University requirements. Also shown are the GPA requirements for probation and dismissal relative to the College's programs. Sections 3.2 thru 3.5 outline the policies and procedures relative to probation and dismissal.

Table 3.1. *Graduation, Probation and Dismissal GPA Thresholds*

Graduation	3.00/4.00
Probation	2.75/4.00
Dismissal	2.50/4.00

> *NOTE: University requirements state that no grade of "D" or "F" is allowed in a course on the plan of study. Any plan of study course in which a grade of "D" or "F" is received must be repeated and completed successfully; it cannot be dropped from the plan of study.*

3.2. Monitoring

Each semester graduate student performance is evaluated to ensure that the student is performing well and will graduate with a 3.00/4.00. Procedurally this is done in the following way:

- Graduate student grades and academic progress will be monitored at the departmental level.
- Monitoring will begin after six (6) credit hours have been attempted and every semester thereafter in which the student is enrolled.
- Students are expected to maintain a cumulative grade point average of at least 3.00 /4.00 with no grade less than "B" and earn grades of "Satisfactory" in dissertation research credit hours.

> *NOTE: The grade "B-" (B minus) is below the expected grade a graduate student should earn in his or her courses.*

- If a student has a **semester** GPA *less than* 2.75/4.00 or a **cumulative** GPA *less than* 3.00/4.00, a letter will be drafted by the department head to the student, with a copy to the major professor, to the Graduate School, and to the student's file, indicating the last semester was determined unsatisfactory and that they are being placed on probation.

> *NOTE: Graduate students that receive an incomplete in a course will have one semester and 12 weeks into the following semester to complete the course. If that is not done, the Registrar automatically makes the grade a failure.*

3.3. Probation

Probation occurs when a student performs below the CoT standards in a semester. Procedurally probation means:

- If a student's **semester** GPA falls below 2.75 or if a student's **cumulative** GPA falls below 3.00/4.00, the student will be placed on academic probation.
- The CoT Associate Dean for Graduate Studies will generate a letter informing the student, major professor, and department head of the probationary status. A copy will also be forwarded to the Graduate School and placed in the student's permanent record.
- **The student will have two semesters to raise their cumulative GPA to the required level and return to good standing.** If they do not, they will not be able to register for classes the subsequent semester and will be dismissed from the program.
- Eligibility for an assistantship while on probation will be left to the Department Head's discretion.

3.4. Dismissal

- If a student's **semester** GPA is below a 2.50 or if a student's **cumulative** GPA falls below 2.75, the student will be immediately dismissed from the program.
- A student will be dismissed from the program if they remain on probation for two consecutive semesters without improvement. This policy is independent of any assistantship the student may hold.

3.5. Appeal

- A student may appeal their probationary or dismissal status by contacting the Associate Dean for Graduate Studies in writing within thirty (30) days of the date of the requisite notification letter. The appeal should include the student's specific reasons for exception to the aforementioned policies.
- The appeal will be reviewed by a subcommittee of three (3) members of the College of Technology Graduate Education Committee (excluding the Graduate Education Committee representative from the student's home department).
- If the review committee recommends reinstating the student, the student's graduate advisor/chair must approve. If the graduate advisor does not approve, the Associate Dean for Graduate Studies will render a final decision.
- In cases where a student is reinstated without approval of the graduate advisor, a new advisor may need to be assigned.
- The decision of the appeal subcommittee and/or Associate Dean for Graduate Studies will be considered final and will be delivered within thirty (30) days of the student's request for exception to probation.

SECTION 4.0. DOCTORAL DEGREE PROGRAM STRUCTURE

Typically the Doctor of Philosophy degree requires that each student complete the requisite number of course credit hours, pass a preliminary examination, propose and execute the dissertation research project, and pass a final examination. As a process, the experience includes:

1. Coursework (45 credit hours plus 30 from a qualified M.S. degree)
    a. Appointment of major professor
    b. Selection of a committee (two people in addition to a chair)
    c. Filing of the Electronic Plan of Study (EPOS)
        i. Draft of the Plan of Study must be submitted by the end of the first semester of study.
        ii. A final Plan of Study must be submitted by the end of the second semester of study.
    d. Successful completion of all courses
2. Preliminary Oral Examination
3. Dissertation Research Project (15 credit hours)
    a. Dissertation research proposal
    b. Proposal defense meeting
    c. Obtain appropriate certifications for research (CITI, HIPAA, FERPA, etc.).
    d. Execution of research
4. Final oral defense of dissertation research

4.1. Program Credit Hour Requirements

The College of Technology Ph.D. requires a minimum of 90 graduate semester credit hours (beyond the Bachelor's degree but counting up to a maximum of 30 for an appropriate Master's degree). Table 4.1 provides a detailed listing of credit hour requirements.

Table 4.1. *Program Credit Hour Requirements*

Degree Component	Minimum Hours
Technology Major	21 cr. hrs.
• *Core Courses*	
• *TECH 646 Analysis of Research in Industry and Technology*	
• *MET 527 Technology from a Global Perspective*	
• *TECH 621 Seminar in Technology (repeated)*	
• *Focus Courses (TECH or any CoT department prefixed course)*	
Cognate (Non-CoT Courses)	12 cr. hrs.
Discovery Foundations	12 cr. hrs
• *Multivariate statistics*	
• *Qualitative Methods*	
• *Quantitative Methods*	
Dissertation Research	15 min cr. hrs 30 max cr. hrs

> ***NOTE:*** *Appendix A provides a template that can be used for course planning for the Ph.D.*

4.1.1 Technology Major Courses

This central component of the Ph.D. program is intended to be used to flexibly add depth and breadth as appropriate to the student's professional goals and simultaneously be consistent with the program's mission. The College of Technology's Ph.D. program *Technology Major* seeks to develop 21st century cognitive skills by means of a nine (9) hour set of core courses and an additional set of courses creating a technology focus. In addition to the nine (9) hour core, students may take any appropriate number of other College of Technology graduate courses to create a focus.
The core courses are:

- TECH 646 Analysis of Research in Industry and Technology
- TECH 621 Seminar in Technology (repeated)
- MET 527 Technology from a Global Perspective

Technology Major component courses, beyond the Master's degree, must be 500- or 600-level. If 400-level courses are used they must lead to or directly support a higher level course to be taken as a part of the program. No new 300-level courses are permitted as a part of the Ph.D. program although they may be taken in order to establish needed prerequisites.

A maximum of nine (9) hours of TECH 690 – Independent Study may be included on the plan of study. A minimum of 21 TECH or College of Technology Department prefixed courses (other than TECH 699) must be a part of the program. Section 6.0 provides information about the requirements for independent study.

4.1.2. Cognate Courses

The *Cognate* consists of any coherent set of courses from outside the College of Technology that creates competence in a field rationally related to the candidate's career objective. A doctoral level graduate faculty member representing the *Cognate* must serve on the candidate's Ph.D. program committee. The intent of the cognate component in the College of Technology's Ph.D. program is to enable candidates to establish a support area of competence relevant to the candidate's career objective. Typically the cognate consists of 12 semester credit hours of coherent courses. The validity of the cognate is attested to by a doctoral level graduate faculty member who serves on the candidate's Ph.D. program committee. Some possibilities for cognate areas include, but are not limited to, the following:

- Science, Technology and Society
- Business/Management
- Engineering
- Human Resource Development
- Safety/Human Factors
- Quality
- Instructional Technology
- Curriculum & Instruction
- Higher Education Administration
- Psychology

- Computer Science
- A language. Meeting (by testing or coursework) a foreign language department's requirements for reading proficiency in a language other than the student's native language or English will be considered the equivalent of a cognate. Students must meet overall program credit hour requirements.
- International Studies
- Art & Design

4.1.3. Discovery Foundations Courses

All Ph.D. graduates from the College of Technology's Ph.D. program are expected to not only be able to critically evaluate and utilize research, but also be able to design, conduct, and report appropriate research in the technology disciplines. To this end, students must demonstrate proficiency in research and experiment design, multivariate statistics, and various research methods. This minimum core will be supplemented by additional study relevant to the specific requirements of the candidate's proposed dissertation research project.

The intent of the *Discovery Foundations* component in the College of Technology's Ph.D. program is to develop mastery of a solid set of research, knowledge development and discovery skills sufficient to enable the candidate's dissertation research project and the critical evaluation of other's research. Both qualitative and quantitative skills are to be developed by coursework in this component as are statistical methodologies including at least multivariate techniques. Therefore, students will take as a minimum:

- A course in multivariate statistics
- A course in quantitative experimental design
- A course in qualitative research methods

4.1.4. Transfer of Credits

A maximum of 30 semester credit hours will be permitted for credit from completion of a committee approved Masters degree. Of the 90 graduate semester credits required for a Ph.D., at least 33 credits, plus all dissertation research credits, must be earned under the supervision of the student's POS committee.

4.1.5. Preliminary Oral Examination

Following the completion of the coursework for the Ph.D., students are expected to pass a preliminary oral examination. The examination may include both a written and oral component. The exam covers all the coursework the student has undertaken as a Ph.D. student. The preliminary oral examination requires the physical presence of all three graduate committee members.

4.1.6. Dissertation

The Ph.D. dissertation must demonstrate the candidate's ability to conduct substantial and significant research in the technology disciplines and/or related disciplines that intersect with them. Candidates are expected to demonstrate mastery of the key literature in the field and use this to situate the specific project they propose.

Students enroll in TECH 699 Ph.D. Thesis Research for a minimum of 15 semester credit hours to receive credit for their dissertation research. This enrollment is to be distributed commensurately with the amount of work performed in the semester. Continuous enrollment in TECH 699 is required until the degree is earned.

> *NOTE: Refer to section 2.6 relative to time limitations governing the pursuit of the Ph.D.*

> *NOTE: There are times when the term "thesis" is associated with doctoral classes or work (such as the title of the course TECH 699). While the term thesis is typically associated with Master's degrees and the term dissertation is typically associated with Doctoral degrees, the terms are sometimes used synonymously.*

4.2. Residency Requirements

The total number of hours of academic credit used to satisfy residency requirements consists of all course credit hours that appear on the plan of study, other graduate course credit hours with grades of "C" or better that appear on the Purdue University transcript, and research credit hours with grades of "S" that appear on the Purdue University transcript.

Doctoral degree students must have at least one-third of the total credit hours used to satisfy degree requirements earned while registered for doctoral study in continuous residence on the Purdue University campus where the degree is to be granted. At least 90 credit hours are required; however, some program areas may require more than 90 credit hours. A Master's degree from any accredited university is considered to contribute 30 credit hours toward satisfying this residency requirement.

In fulfilling these requirements, a maximum of 18 credit hours will be allowed from any one semester (maximum hours proportional to length of summer session = 9 credit hours).

> *NOTE: If a student completes all the academic requirements but has insufficient residence credits, a letter of explanation justifying the deficiency should be forwarded to the Dean of the Graduate School. If justification is sufficient, the Dean of the Graduate School may waive part of the residency requirement.*

4.3. Appointment of a Major Professor/Advisor

Each graduate degree plan of study is unique to the individual student and his/her background, experience, and degree objectives. To guide in the development of a degree plan, a major professor (advisor) will be appointed to chair the student's advisory committee and will assist the student through the program. A student may request a major professor in their application materials; but this request may not always be possible, based on advisement load, research commitments, and other factors. The major professor will become the most important contact person, and the major professor/student relationship must be a mutually acceptable one. The major professor of the doctoral committee must hold an earned doctorate. The major professor serves concurrently as advocate, mentor, and supervisor of the graduate student.

4.4. <u>Graduate Advisory Committee</u>

The student and the major professor are responsible for the selection of an advisory committee. The duties of that committee are to assist the student in the preparation of the plan of study and to offer advice during the period of graduate work. It is important that the initial advisor, whether or not she or he continues as the permanent advisor, initiate activities to assist students in becoming acquainted with potential faculty to serve on the advisory committee.

> *NOTE: The student's doctoral advisory committee begins with three members of the graduate faculty, at minimum. After the preliminary oral examination, a fourth member must be added. The fourth member remains through the dissertation proposal creation, approval and defense process.*

The major professor and one other member of the committee should be from the College of Technology graduate faculty whereas the third may represent a cognate area, but must also be a member of the Purdue University graduate faculty. Members of the committee need not be faculty with whom the student has taken coursework. A co-advisor may be designated when advantageous to the student and where it can build faculty experience. Students and major professors should note that if a student's plan of study and/or research project would be significantly improved by the expertise of a faculty member or a person outside of the university, they may request consideration for special certification for such service. Such requests require a rationale and description of the expertise and are routed to the Graduate School via the College of Technology Graduate Office. The request for appointment of the advisory committee is made on the same form (and at the same time as) the request for approval of the student's plan of study (refer to the section 5 on the Electronic Plan of Study Requirements).

The initial advisory committee should be selected preferably **during the first enrollment semester, but not later than the end of the second enrollment semester.** The committee will then be in place to help the student develop the plan of study and review/approve the student's dissertation proposal, which must be approved before actual work on the project may begin. The student should discuss the plan of study with their preferred potential advisory committee members and secure their permission to list them on the plan of study **before** the plan is submitted for signature. The fourth member of the doctoral committee is added after the preliminary oral examination, but before the dissertation research proposal.

4.5. <u>Course Load Recommendations and Requirements</u>

The maximum course load for graduate students is 18 credits (and occasionally 19 credit hours with special permission). Typically 18 credit hours translate into six (6) courses. Eight (8) credit hours is considered the full-time certification standard for graduate students by the Graduate School.

> *NOTE: To maintain full time status, international graduate students must take eight (8) credit hours per semester.*

Most students inquire as to how many classes they should take when they have an assistantship. Table 4.2 provides some recommendations as to how many credit hours are typical when also working as a teaching or research assistant.

Table 4.2. *Recommended Course Loading for Assistants*

Assistantship Load	Recommended Course Load
¼-time assistant	12 to 15 cr. hrs.
½-time assistant*	9 to 12 cr. hrs.
¾-time assistant	6 to 9 cr. hrs.

*Assumes ½-time is equivalent 20 working hours.

> ***NOTE:*** *A candidate for the Doctoral degree is expected to complete all requirements for the degree within eight years from the completion of the oldest course on the plan of study.*

4.5.1. Reduced Course Loads for International Students

To maintain visa status, international students are expected maintain a fulltime load. Purdue's Office of International Students and Scholars (ISS) provides information about this requirement and offers a means for international students to request permission to take a reduced courses load. Appendix B provides a visual example of the form. Graduate students desiring a reduced course load should work with ISS to request this before their course load is reduced below that required by U.S. Immigration rules. See the ISS web site for more information: http://www.iss.purdue.edu/.

4.6. Registering for Courses as a Graduate Student

Purdue University provides online scheduling of courses for all of its students via the *myPurdue* system. The software used for this system is called *Banner*. Typically the student works with his or her advisor to determine the appropriate courses to take for a given semester. Then the student works with the graduate coordinator in the College of Technology to sign up for courses. Typically students can self-register. A registration PIN number is required to perform self- registration. You will be informed of your PIN number at the time of admission from the College of Technology Graduate Office. However, at times students may need an 'override' to be able to register for certain courses. More information about registering for classes can be found at the Registrar's web site:

http://www.purdue.edu/registrar/Registration%20%26%20Recor/Registration_Procedu.html

It is the graduate student's responsibility to keep track of specific dates relative to course scheduling. These include deadlines for registration, deadlines for dropping courses and the like. The Graduate School announces these dates on its web site and typically the deadlines are emailed to students each semester at appropriate times.

4.7. <u>Dropping and Adding Courses</u>

To drop or add a course, the student uses the *myPurdue* systems. Changes in variable credit courses will require the Graduate Office to enter the changes. Subsequently, be sure to confirm that a dropped or added course has been officially recorded by checking *myPurdue*.

Courses dropped during the first two weeks of classes will not appear on your permanent record. Courses dropped during weeks three and four will be recorded as a "W" grade on your permanent record (withdraw). Courses dropped during weeks five through nine require the signature of both the instructor and the CoT Graduate Coordinator. In such a case, the instructor must assign a grade of "W," "WF," or "WN." The end of this period is the final deadline for withdrawing from a class.

> *NOTE: A "W" simply records the fact that the student withdrew after the second week of the semester. A "WF" records that the student was failing a graded course. "WF" grades are not included in computing the GPA. A "WN" records failing status in a course being taken Pass/No Pass. "W," "WF," and "WN" grades are recorded on your permanent record.*

Courses added during weeks two through four require the approval and signature of the instructor and personnel in the CoT Graduate Office. Courses may be added during weeks five through nine, but only under extraordinary circumstances. Courses added after the fourth week requires the approval and signature of the instructor, the CoT Graduate Coordinator, and the head of the department where the course is offered (for non-CoT courses).

> *NOTE: Graduate students that receive an incomplete in a course will have one semester and 12 weeks into the following semester to complete the course. If that is not done, the Registrar automatically makes the grade a failure.*

4.8. <u>Research in Absentia</u>

Under circumstances often beyond their control, graduate students sometimes find it necessary to attempt completing their research in absentia. Experience has indicated that it is very difficult to complete research in absentia status, and it is seldom a recommended course of action. At the very least, research in absentia should only be considered if a student appears to be within one year of completing his or her research.

Permission for research in absentia status must be obtained from the Graduate School. The request for research in absentia is initiated by the student's major professor on GS Form 12: *Request for Research in Absentia* (see Appendix C). The Graduate School must receive the request form at least one month prior to the beginning of the initial absentia session. Research in absentia is not permitted until after a student has completed all course work, passed the Preliminary Exam, and made substantial progress on the Ph.D. thesis research (TECH 699). In addition to the Graduate School regulations governing research in absentia, as outlined in the Graduate School Bulletin, the CoT

requires that the official request form must be accompanied by a statement, approved by all members of the Doctoral Advisory Committee, clearly identifying the reason(s) for the request. All requests for research in absentia must also be approved by the Associate Dean of Graduate Studies in the College of Technology.

When approved, permission to register for research in absentia will be valid for an initial period of one calendar year. A request for an extension beyond the approved year of research in absentia initiates a Formal Review by the Associate Dean of Graduate Studies in the College of Technology. As part of the Formal Review, the student must submit a written progress report and a complete explanation of why the deadline for completion within one year was not met. In addition, the Doctoral Advisory Committee must be convened to conduct a Formal Review Examination. The committee will recommend a) a one year extension of the research in absentia status, b) termination of the research in absentia status (requiring the student to return to Purdue), or c) termination of the student's doctoral program. Students granted an extension of the one year limit must submit a written progress report to their Doctoral Advisory Committee and to the CoT Graduate Office prior to all subsequent registrations for research in absentia. Additional requests for an extension of research in absentia status are subject to the same review procedures. A student must register for research in absentia every semester (summer sessions are not included) from the initial approval until all requirements are completed.

It should be noted that if your research merely requires the use of facilities that are available elsewhere, but not available at Purdue, you should not apply for research in absentia. Rather, retain your Purdue University appointment, register as a regular student, and file a request for "Change of Duty Station." This requires form HRS 33F (see Appendix D).

4.9. Re-entry into the Ph.D. Program

If a Ph.D. student fails to register at the West Lafayette campus for three or more consecutive academic sessions, he or she must submit a new application for re-entry into the doctoral program and obtain approval from the CoT Graduate Office and the Graduate School before any subsequent registration will be permitted. Registration for *Research in Absentia*, it should be noted, is considered to be registration at the West Lafayette Campus.

A student seeking to re-enter the Ph.D. program is required to submit a new application as well as updated transcripts (if the applicant has pursued any academic studies in the interim). The student may also be required to submit a personal statement and new letters of recommendation.

It is also a Graduate School policy that course credits earned by a student whose graduate study and/or professional activity has been inactive for five years or more cannot be used on a plan of study for an advanced degree. A plan of study approved prior to such a period of inactivity is deemed invalid. Likewise, a Preliminary Examination passed prior to such a period of inactivity must be repeated.

SECTION 5.0. ELECTRONIC PLAN OF STUDY REQUIREMENTS

The philosophy of the Graduate School of Purdue University is that advanced study should be tailored to the individual and his or her professional and intellectual objectives. Thus, the plan of study is unique to each student's needs and desires within the framework set forth by requirements for the CoT doctoral degree.

The development of the plan of study begins as part of the initial course registration. The major professor will discuss the student's background, interests, and degree objectives as part of the preparation for the first enrollment. Based on this discussion, the major professor will request spaces in the appropriate courses. The major professor will also recommend possible cognate areas and advisors.

In addition to course work requirements, each student must complete and successfully defend their dissertation research (see section 7.0). The plan of study should be developed to support this research requirement.

The plan of study must list all courses the student will take to meet the degree requirements. These include the names for the primary and cognate areas of study; the course number, course title, and credits for each course; the date when the course was or will be completed; and the research area. The plan of study is signed by each member of the advisory committee and the student. After review, the plan is signed by the Associate Dean for Graduate Studies. The plan is then submitted to the Graduate School for formal approval. It is important that the major professor access the approved plan of study and periodically review progress of its completion with the graduate student. After an approved Plan of Study is on file, committee and course changes can be made at any time up until graduation. This can be accomplished by clicking on the Create Change Request link available next to an Approved plan of study. The Change Request link will initiate a Change Request form. These procedures all occur electronically via the EPOS procedure. Refer to the following link:

https://ias.itap.purdue.edu/gradsch/HELP_PAGES/pos_student_instructions.doc

Also, be sure to review the Plan of Study Checklist to verify completeness of your EPOS before submitting it in final form:

http://www.tech.purdue.edu/Graduate/forms_documents.cfm

Upon approval by the Graduate School, the plan of study becomes a contract among the student, the College of Technology, and the Graduate School. When all requirements of the plan of study are completed satisfactorily, the student is awarded the Doctor of Philosophy (Ph.D.) degree. Refer to the sample plan of study form in Appendix E. Appendix F shows a flowchart of the EPOS creation and approval process.

> **NOTE:** *If a course in the plan of study is not available when the student needs it, or if the direction of the student's research topic changes, students can submit an EPOS change of plan of study. Once filed, the change request requires prior signatories to approve the requested change.*

> **NOTE:** *See section 4.1.5 for information about transfer credit.*

5.1 Independent Study Credit

A maximum of six (9) semester hours of independent study credit (e.g., TECH 690) may be included in a plan of study. Independent study courses require a specific proposal and approval process as defined in section 6.0 of this handbook.

5.2. Dissertation Research Credit

Doctoral students in the CoT are required to have a minimum of 15 credit hours of TECH 699 Ph.D. Thesis Research. This course and its respective credit are not shown in the listing of courses on the Plan of Study. Instead, it is acknowledged in the notes field. For example, the notes field in the EPOS may include the following:

> "The student will complete 15 credit hours of TECH 699 to satisfy the dissertation requirement."

5.3. Examination Requirements

The College of Technology's Ph.D. program requires students to successfully demonstrate an adequate level of competence as documented by their individual performance on two examinations. These examinations are scheduled during the middle (Preliminary) and end (Final) periods of the student's program.

5.3.1. Preliminary Oral Examination Requirement

The purpose of the preliminary examination is to comprehensively assess the student's mastery of the knowledge base(s) encompassed by the plan of study. Successful performance on the comprehensive examination admits the student to candidacy for the Ph.D. Unsuccessful performance can result in assignment of additional requirements or dismissal from the program.

One of the major outcomes of the preliminary examination is that students work actively to synthesize knowledge and skills learned while completing the courses required by their plan of study. To this end, major advisors need to work carefully with advisees over an extended period of time to enable them to evolve such integrated capabilities. It is also recommended that students at similar stages in their pursuit of the Ph.D. form independent study groups to help each other employ peer learning to assemble such capabilities.

Purdue University Graduate School policy states that "To become eligible to take the examination, the student must have filed a plan of study, satisfactorily completed most of the formal study, and satisfied any foreign language requirements (if required).

The examination should be scheduled as soon as possible and must be completed at least three sessions before the expected date of the Ph.D. final examination."

The Preliminary examination should be designed by each student's Ph.D. committee to assess the student's:

- Mastery of the technology focus area consistent with the student's plan of study, their articulated purpose for pursuing Ph.D. study, and the Ph.D. program's mission.
- Understanding of the cognate discipline and its interface with the student's technology focus area consistent with their articulated purpose for pursuing Ph.D. study, and the Ph.D. program's mission
- Ability to assess, design and conduct research appropriate to the student's articulated purpose for pursuing Ph.D. study, and the Ph.D. program's mission

While the form(s) of this exam is subject to specification by each student's Ph.D. committee, **it is intended to systematically assess integrated competence in the technology major, discovery foundations and cognate components of the plan of study.** Performance will be judged by the student's graduate committee and will be reported to the Graduate School.

Typically this examination will be scheduled during the semester in which the student completes their coursework. This examination must consist of both a written examination and a subsequent oral component. If a conventional test situation is used, two days of assessment are typical and the major professor is responsible for proctoring the exam. The student's Ph.D. committee faculty may specify what, if any, resources the student will be permitted access to during each portion of the examination.

Faculty on the student's Ph.D. committee are to be provided with a complete copy of all of the student's written responses to all portions of the examination. Committees may, however, divide the formal assessment tasks as they deem appropriate. It is recommended that faculty communicate their assessment of the examination to the major advisor at least one week in advance of the oral portion of the examination. The major advisor may use, as appropriate, any of this input while working with the student to help prepare for the oral examination.

It is recommended that at least a two hour time block be scheduled for the oral portion of the preliminary examination. To schedule the preliminary exam, a Graduate School Form 8: *Request to Appoint an Examination Committee* (see Appendix G) needs to be filed in the COT Graduate Office a minimum of 3 weeks prior to the scheduled examination date. Concurrently, the CoT Form 1 (see Appendix H) also needs to be completed.

To insure that student knowledge is current, the Graduate School stipulates that "A preliminary examination passed by a student whose graduate study and/or professional activity has been inactive for five years or more is invalid. (See Section III-B-5 of the Graduate School publication *Policies and Procedures for Administering*

Graduate Student Programs.)" Given this, if this amount of time has elapsed, College of Technology Ph.D. committees are to reassess the student's mastery of the discipline by retesting according to the same guidelines as the initial preliminary examination.

The results of the preliminary examination are pass, pass with conditions, or non-acceptable performance. In case of the latter assessment, faculty will be asked to specify whether the student is eligible to retest. If the latter, at least one semester of study and preparation must transpire before a retest is permitted. Upon completion of the oral portion of the preliminary examination, the examination results, the examination itself, and a copy of the student's responses are forwarded to the College of Technology Graduate Office. The examination report will be recorded and then forwarded to the Graduate School and the examination and responses will be filed in the student's master file.

5.3.2. Preliminary Oral Examining Committee

The preliminary examining committee must consist of a minimum of three members of the graduate faculty who need not be faculty members with whom the student has taken coursework. All members of the examining committee are to be notified of the scheduled examination. Other faculty members may be requested by any member of the examining committee to participate, without vote, in the examination, and any interested faculty member may be present, without vote. Although only three committee members are required, if the committee has four or more members, a single member may withhold his or her signature of approval.

5.3.3. Dissertation Proposal Defense Meeting Requirement

While not an examination, the proposal defense meeting follows the preliminary oral examination and precedes the beginning of the doctoral research. The proposal meeting assembles the final oral examination committee to preview and approve the dissertation proposal for research. The proposal typically includes the first three chapters of the dissertation, while the proposal defense meeting typical include a presentation and question and answer period.

> **NOTE:** *The dissertation proposal defense meeting cannot occur in the same semester as the preliminary examination.*

5.3.4. Final Oral Examination Requirement

A Final Examination is required after the student's Ph.D. research is completed and a satisfactory dissertation, as deemed by the Ph.D. advisor or co-advisors, is written. The Graduate School Form 8: *Request to Appoint an Examination Committee* (see Appendix G) is used to schedule the meeting. It must be filed in the CoT Graduate Office a minimum of three (3) weeks prior to the scheduled examination date. Concurrently, CoT Form1 is also completed and filed with the CoT Graduate Studies Office (see Appendix H).

The purpose of this examination is to assess the Ph.D. candidate's capability to demonstrate advanced mastery of research as well as the specific topic investigated. This examination requires:

- Distribution of the advisor-approved dissertation draft to all Ph.D. committee members, and the College of Technology Associate Dean for Graduate Studies, at least two weeks in advance of the examination date.
- Oral presentation of the research to the Ph.D. examination committee during a publicized session open to the university community
- An oral examination by the Ph.D. examination committee members conducted by the committee in closed session.

5.3.5. Proposal Defense and Final Oral Examination Committee

The proposal defense and final examination committee will consist of a minimum of four members of the graduate faculty. The Ph.D. candidate and all examination committee members are expected to participate in the proposal defense and final examination. At least three of the committee members, including the major professor, must be physically present for the duration of the examination. Other members may participate using telecommunication if necessary. Performance on the final examination will be judged by the official Ph.D. examination committee appointed on the GS Form 8 (see Appendix G). Successful mastery is required in order for the Ph.D. to be awarded.

> **NOTE:** *Often the final examination committee includes the three faculty who served on the preliminary examination committee, plus another individual.*

5.3.6. Rules and Regulations Related to Doctoral Proposals, Research, and Examinations

It is the policy of the University and of the College of Technology that:

- At least three academic sessions devoted to research and writing must elapse between the preliminary and final Ph.D. examinations.
- Final Ph.D. examinations will be announced so that interested members of the Purdue faculty and student body may attend up until the point of committee deliberations which shall be held *in private*.
- Final examinations must be held before the last week of classes.
- When the *Request for Appointment of Examining Committee* (G.S. Form 8) is approved by the Graduate School, an approved copy of the form will be sent to the College of Technology Graduate Office with the following additional materials for the candidate:
    a) Report of the Final Examination (G.S. Form 11; see Appendix H);
    b) *Survey of Earned Doctorate* (http://survey.norc.org/doctorate/index.jsp).

5.4. Publication Requirement

Scholarship plays a very important role in the preparation of MS and Ph.D. students in the College of Technology. Graduate students need to understand the role of

scholarship in higher education as well as its importance in disseminating new knowledge. The CoT values the role and contribution of its faculty and students in its efforts to engage in discovery with impact. It is important that graduate students learn how to create and present scholarship as part of their academic training. For these reasons, the College of Technology requires all Ph.D. students and MS thesis students to engage in scholarship.

Ph.D. students are required to be first author on at least one-refereed journal article or refereed conference proceedings and co-author on one other refereed journal article or refereed conference proceeding. These articles may be published or "in review".

Exceptions to the above requirements have to be approved by the student's committee chair and the Associate Dean for Graduate Studies. Some other form of scholarship should be substituted for the above if the student requests an exception.

5.5. <u>Publication of the Research</u>

Because of the usual intense and dynamic interaction of professor and Ph.D. student, there is an expectation the research will lead to one or more joint publications. Typically, the designation of authorships is mutually agreed upon and it follows an order of decreasing contribution to the research and publication. Students and advisors should also note the guidelines for ownership of intellectual property developed by Purdue University's Graduate School.

SECTION 6.0. REGISTRATION FOR AN INDEPENDENT STUDY COURSE (TECH 690)

Independent study courses may be included in a graduate plan of study. A copy of the final product or a complete report of the study must be submitted to the professor in charge of the independent study. Failure to do so may result in an incomplete or failing grade. This work must be independent of other required course studies (previous, existing, or future). ***Registration in TECH 690 may not be initiated until all of the following procedures have been satisfied.***

To enroll in an independent study the student must:

1. Obtain an independent study authorization form from the Graduate Studies web site at http://www.tech.purdue.edu/pages/graduate_programs/ forms_documents.html. This form is a request for permission to enroll in an independent study course (refer to the sample form in Appendix J).

2. Meet with the major professor to discuss the proposed study and secure his/her approval.

3. Prepare a detailed prospectus (typed or word processed, APA format, title page) including the following sections.

   a) Problem: Describe the problem you propose to address clearly, delimit the problem area, and provide a rationale for its significance.

   b) Purpose and Objectives: Provide a numbered listing of all educational objectives to be accomplished.

   c) Define how the course relates to your degree objectives, i.e., what it will do for you.

   d) Procedures: Explain the methods to be used and any unusual requirements for materials, equipment, or facilities. A graphic time line and two progress reports must by submitted by the student to the professor in charge between weeks three and ten of the semester. Provide a narrative, flow chart, or outline of step-by-step procedures used to complete the study. If applicable, provide a supply and materials cost worksheet.

   e) Outcomes: Itemize and describe the deliverables/products, i.e., tangible results (software source code, papers, reports, products, or summaries) of the study and list whom will receive copies (office, professor in charge, student).

   > *NOTE: This prospectus should be about one to three pages in length. A good way to prepare a prospectus is to subhead it using the above categories and present the information below each subheading.*

   f) Meet with the professor (the professor in charge) who will guide the study to discuss the prospectus.

g) Revise the prospectus as necessary. Complete the INDEPENDENT STUDY AUTHORIZATION FORM (refer to the sample in Appendix J), attach it to the prospectus, and secure the signatures of the major professor (academic advisor), the professor in charge, and this professor's Department Head.

h) Submit the signed copy of the request to the CoT Office of Graduate Studies along with a completed Form 23 (see Appendix K). The Form 23 MUST NOT be submitted for processing prior to securing the necessary approvals for the prospectus.

> **NOTE:** *Independent study credit may not be used for graduate research credit (i.e., as a substitute for required TECH 699 credit hours).*

SECTION 7.0. THE DOCTORAL DISSERTATION

A doctoral dissertation in technology is a significant piece of original work, typically involving research, a formal written description of that research, and an oral defense of the research. Typically, the dissertation contributes new knowledge to the discipline against the backdrop of what others have contributed to the topic as well (via the literature review). The tone should be scholarly, with a primary audience of other researchers.

To pursue the development of a dissertation, students must first develop a dissertation proposal and secure its approval by their final examination committee. A formal meeting of the student's graduate committee is required to evaluate the proposal and the College's Graduate Studies Office is to be provided a copy of the approved proposal and the CoT Form 2, *Acceptance of Graduate Proposal* (see Appendix L). Proposals are developed pursuant to student enrollment in one (1) to three hours (3) of TECH 699. Subsequent enrollment in TECH 699 for the additional required credits is contingent upon filing of the approved proposal.

> ***NOTE:*** *The primary difference between a thesis and a dissertation is scope, that is, size and breadth of the project.*

7.1. <u>Key Points about the Dissertation</u>

1. A dissertation typically addresses a theory or knowledge gap. Often it does so by testing or evaluating or by developing and validating a concept or methodology.

2. Dissertations require documentation of the significance of the problem or gap in knowledge they address (i.e., they make a contribution to the discipline).

3. All dissertations result in a clearly identifiable new (requires documentation of originality) knowledge of significance.

4. Generally dissertations involve the use of one or more of the accepted research paradigms and established research techniques. They may be quantitative or qualitative in nature. They may involve historical or philosophical, scientific or technological perspectives. They may be experimental or developmental in methodology. Other forms/paradigms of research scholarship may also be employed if approved by the committee.

5. The dissertation format must follow the *Purdue Graduate School Thesis Guidelines* as supplemented and detailed in this handbook. The format is APA citation format with some specific differences (see section 8.5 and 8.6).

6. Dissertations demonstrate a high level of reasoning, effective written communication, and are documented in a form that permits replication.

7. Dissertations are necessarily filed in Purdue's library (via the E-pubs section). Thesis containing intellectual property are marked as confidential and not made publicly available.

8. Dissertations are filed with the University and the *ProQuest* Repository (http://www. proquest.com/). Thesis containing intellectual property are marked as confidential and not made publicly available.

SECTION 8.0. DISSERTATION PROCEDURES

The culminating demonstration of successful performance in the student's Ph.D. program is the design, execution, and documentation of the dissertation, and its defense. Any form of research deemed acceptable and appropriate to the Ph.D. committee may be used to satisfy this requirement. No part of this handbook is intended to signal a preference for quantitative or qualitative research or for research from any particular paradigm.

Nevertheless, quality research cannot be rushed. Given this, it is encouraged that students and Ph.D. advisors begin work on the research project as early as possible. Often, for students employing a typical four year timeline, the third year is appropriately used to define the research topic and generate the proposal. The earlier this occurs during this time the better. The gradual use of TECH 699 credits is one way to encourage such progress, although the bulk of them should be taken only after the student is admitted to candidacy.

Procedurally a student must:

a) Enroll in TECH 699 (typically one (1) credit hour) to generate and successfully defend the dissertation research proposal.
b) Defend the proposal in front of final examination committee.
c) Obtain appropriate approvals (if applicable) to conduct research (CITI, IRB, HIPAA, FERPA, etc).
d) If approved, execute the dissertation research (during this time students enroll in subsequent hours of TECH 699).
e) Upon completion of the dissertation:
   a. Thesis students must meet with the CoT Thesis Advisor for approval of their format
   b. Defend project in front of final examination graduate committee.
   c. Upon successful defense of the project, students deposit the dissertation with the University, College, and with their committee.

8.1. TECH 699 Research Ph.D. Thesis Enrollment

Exact enrollment timing can vary, but at least three consecutive enrollments in TECH 699 are required. Typically, **the first enrollment is for one (1) to three (3) semester hours of credit following the preliminary examination** (but earlier enrollment is permitted if deemed appropriate). During this academic session, the dissertation proposal is developed and approved by the final examination committee.

> *NOTE: At least three academic sessions devoted to research and writing must elapse between the preliminary and final Ph.D. examinations.*

8.2. Grades for TECH 699 Ph.D. Thesis Research

Performance in any TECH 699 Ph.D. Thesis Research course is graded using the following scale:

- Pass – used where the student has met or exceeded requirements.
- No Pass – used where the student has not met requirements and has not invested appropriate amounts of effort.
- Incomplete – used where the student has invested appropriate amounts of satisfactory effort but the project is not yet finished.

> *NOTE: Graduate students that receive an incomplete in a course will have one semester and 12 weeks into the following semester to complete the course. If that is not done, the Registrar automatically makes the grade a failure.*

8.3. Ph.D. Dissertation Proposal Defense

Once the dissertation proposal has been completed (the proposal typically includes the first three chapters), the student works with the graduate chair to establish a meeting of the final examination committee for defense and approval of the proposal. Typically the student does a 30 to 40 minute presentation, with sufficient time left to answer questions. Once the proposal is approved by the committee, a copy of the CoT Form 2 (signed by all committee members and the graduate student) and the final proposal are deposited in the CoT Graduate Studies office. See Appendix L for an example of the CoT Form 2.

8.4. APA and Formatting Requirements for Dissertations

Dissertations in the College of Technology follow the university guidelines for formatting. Generally the formatting is aligned with the APA parenthetical citation format with some specific additions. Dissertations should utilize the document templates provided by the university and/or college. Templates for Word 2007 and Latex exist as of this writing. Templates are provided on the following two URLs:

- University Templates: http://www.gradschool.purdue.edu/thesis2.cfm
- CoT Templates: http://www.tech.purdue.edu/Graduate/forms_documents.cfm

Most students use the Microsoft Word templates as the basis for formatting their proposals and final documentation. The templates include styles for heading elements, tables, figures, captions, et cetera. It is recommended that students use the templates for formatting their proposals and final documents.

8.4.1. Notes about the Templates

The following lists some things to note about using the templates and formatting in general:

- In the required course, TECH 646, students will be familiarized with the templates and use them to generate their projects in the course. Most students take TECH 646 in the same semester that they intend to defend their proposal.
- The University template will not automatically format all elements as needed within the College of Technology. Specific elements such as: figure captions,

- table captions, table verticals, table of contents, and list of tables and figures will require some manual adjustments to get them to format correctly.
- All Ph.D. students are required to have a thesis format meeting prior to their final oral defense of their dissertation. Dr. James Mohler, Thesis Format Advisor for the College, is willing to meet with any student who needs an introduction to the thesis templates prior to the creation of their proposal. Students may email him to set up a meeting or to get examples of prior formatted theses.
- The Graduate School at Purdue typically hosts workshops on the use of the thesis templates each semester. Consult the Graduate School web site for the dates and times of these workshops.
- Other specifics of the format can be seen in an example document that can be used as a guide for formatting theses and dissertations (http://www.tech. purdue.edu/cgt/academics/graduate/mohler_dissertation.pdf).

8.5. Preparing the Dissertation Proposal

Although the bulk of the student's work towards meeting this requirement typically occurs after the student's passing of the preliminary examination, the student may submit their research proposal to their Ph.D. committee at any time deemed appropriate to their Ph.D. advisor/co-advisors. Students should discuss with their Ph.D. advisor, the procedures she or he wishes to have followed in preparing the proposal and vetting it with the other committee members. Usually, advisors will want to approve a proposal draft prior to it being circulated to the other members of the student's committee.

The faculty's expectation for the Ph.D. research proposal is that it is of sufficient detail to enable careful assessment of the project's significance, its locus within the literature, and the validity and reliability of the proposed methodology and instrumentation. It is expected that the graduate student will be the primary person conducting the study although studies situated within larger initiative contexts are certainly permissible. If such conditions exist, it is encouraged that the student and advisor thoroughly explore all potential implications of the situation for the student. These include, dependence on others outside of the student's control, shared intellectual property rights, restrictions on publications, timing of progress and the like.

Generally each proposal has similar sections, but the order of the sections may vary as every individual and every proposed project is unique. The exact approach that the student takes is ultimately at the discretion of the major professor (advisor) and the student's graduate committee.

Proposals must be succinct and direct. Clear, jargon-free prose that establishes the need for the study and a proposed method of solution are required—nothing more (or less). While COT faculty have not established specific proposal length requirements, a proposal should be sufficiently detailed to enable the graduate committee to render effective judgment and share appropriate advice on how to proceed. Typically, proposals are 20-30 pages (including figures, tables, but not counting references or appendices) to communicate essential detail.

Beyond content, there are two important factors in the writing of any professional paper, be it a proposal or a final report. One factor is format; the other is style. Format is the physical layout of a paper. Rules for indention, type face, line length, etc., are considered format issues. Style requirements are created to facilitate clear communication. Globally, style indicates the manner of expression and the sequence in which material is organized. At a micro level, style concerns formality, person, tense, spelling, and abbreviation standards. Both format and style are important, and both have their place. Most publication manuals include both style and format guidelines.

Proposals are always written in future tense. Thus, statements that refer to procedures should be stated as, "This proposed study will collect data using . . ." or "Results of this study will be used to . . . ." Similarly, College of Technology standards recommend that the proposal be written in third person. However, depending on the type of work being executed, first person writing may be acceptable. For example, most quantitative research projects use third person. Most qualitative research projects use first person. Students should consult with their graduate chair and discuss which is appropriate based upon the direction of their research and the methodology they intent to employ.

> ***NOTE:*** *While the student is working on the development of their research proposal, and then subsequently engages in conducting their research, it is encouraged that they enroll in several successive semesters of TECH 621 Seminar in Technology. During these enrollments they will have the opportunity to learn of other students' work and see examples of proposals and research activity. Critical evaluations of research quality and effectiveness will be practiced and they will have the opportunity of presenting their proposal in practice form. Upon completion of the proposal defense, and acceptance, the student and their major advisor are to file a revised copy of the proposal with the College of Technology Graduate Office.*

8.6. Dissertation Proposal Contents

The following sections provide an overview of the major parts of a dissertation proposal.

8.6.1. Dissertation Cover Page

The dissertation cover page is established based upon the University formatting guidelines. Appendix M shows an example of the dissertation cover page. Note that the thesis and dissertation use the same page format. The thesis template (if macros are turned on) will allow the user to select the appropriate elements from a drop down list. Students should fill in the title, type (Dissertation), name, and graduate month and year of the thesis cover page.

Once the dissertation proposal is approved, the dissertation proposal is filed with the Office of Graduate Studies in the College of Technology following the proposal defense meeting. This original document then becomes the contract for the dissertation.

Students must also submit CoT Form 2: Acceptance of Graduate Proposal (see Appendix L).

8.6.2. Abstract

The student must prepare a one (maximum) page abstract that succinctly describes the proposed problem to be addressed, purpose for the study, the significance of the proposed study, an overview of the proposed methods to be employed and of the anticipated deliverables. Typically this section is less than 400 words.

8.6.3. Chapter 1: Introduction

The form of the introduction will vary with the nature of the proposed project, however it usually does not have a heading (the title of the chapter serves as the heading). Typically it ranges from one to two pages in length. It is important to remember that this is the sole chance to establish a frame of reference in the reader's mind. Appropriate introductions are brief and designed to establish the need for a study. There is no "right way" to write an introduction. There are, however, several possible ways to craft an introduction that will accomplish its intended goal. One common method is to identify the problem in a global way (without specifics). This approach creates an overall frame of reference that makes it much easier for the reader to focus on the more detailed portions of the proposal.

8.6.3.1. Statement of the Problem

There is no section of a proposal that gives beginning proposal writers more challenge than the "Statement of the Problem" section. Too often early drafts present either a restatement of the introduction, a detailed description of the methods to be used, or a suggested solution. None of these are appropriate statements of the problem. A problem is something that is wrong. Therefore, the statement of the problem is merely a brief description of what is wrong, written in specific enough terms that the reader can see the problem and not simply a problem space. One test of the quality of a problem statement is always, "Could the problem be recognized if the statement were being read for the first time?"

8.6.3.2. Research Question/Hypotheses

Once the statement of the problem is generated the research question and hypotheses follow. The research question is a testable statement of the problem; the guiding mission for the research. For example, maybe the statement of the problem acknowledges that a new method of learning is needed within a particular class. The research question would then be phrased, "What is the effect of learning technique X on scores in class Y?" This statement would be used to generate hypotheses that could then be tested statistically.

Another example might be that a new algorithm is needed to solve a problem on in some computer domain. The research question might be, "Can an algorithm be developed to solve computer security in educational environments?" In this example, rather than statistics being used, the student might create the algorithm, test it, to see if it works or does not work.

A final example might be that company X needs to solve a workflow issue in a manufacturing process. The research question might be, "Can software X be used to make the workflow in company ABC more efficient and effective?" In this example, maybe the student will implement the software and then report on the effect related to efficiency and effectiveness.

While these are merely examples (and should not be assumed to fully define the wide range of technology dissertations), nearly all projects should have a defined research question that is derived from the statement of the problem. Such a question should also be testable. Whether the dissertation has hypotheses will depend on the type of research being conducted (quantitative or qualitative).

8.6.3.3. Significance of the Problem

Once the problem has been stated, the significance of the problem must be established. The significance section should be drafted in a manner that removes any question of the importance of the proposed study. This is the part of the proposal in which the proposed project can be tied to the student's overall plan of study and career goals. Generally, this section should "sell" the project as being worthy of doing in the business/industry and/or academic/disciplinary context. Often students will also deal with how or why this is important beyond the confines of Purdue. What contribution will be made to industry, academia or the world at large as a result?

One of the effective methods of strengthening this section is to highlight key citations from credible sources that indicate that the problem is real and that things would be better if it were solved. However, this should not be overdone. Selection of two or three major supporting pieces of literature is sufficient. The review of literature can be used to expand this support.

8.6.3.4. Statement of the Purpose/Scope

Once the problem and its significance have been stated, the purpose of the project must be described. Here is where the student indicates what they propose to do about the problem, that is, what part of it they wish to address and what the deliverables of their work will be. Often this section will also be used to define and limit (generally) the scope of the project. Typically the nouns and verbs that are a part of the statement of the problem or research question will be clarified and bounded. Later in the proposal the assumptions, limitations and delimitations provide further insight related to the scope and outline specific details related to scope limitation.

8.6.3.5. Definitions

Definitions must be included in a proposal whenever it is necessary to inform the reader of the unique way in which the terms are to be used in the proposed research. For example, if learning is to be defined as "a change in behavior", both the entering and terminal behaviors must be defined. But, when terms are used in standard ways, it is not necessary to include the definitions.

An important issue to remember related to definitions is that each definition should have an associated citation. The students use (and definition) of terms should be based upon the academic or industrial literature. As such, because definitions usually use the words of others, most definitions are typically directly quoted source material. When this is the case, the citation should include source, date as well as page number where the material occurs.

Definitions lists usually also include acronyms and abbreviations. Be sure to spell out all acronyms or abbreviations not only in the definitions list, but also in the first instance of their use in the body text of the proposal. The sample paragraph below is what you should NOT do.

> What would happen if the president of the BBB requested the assistance of the FTC in order to convince the DOC that it should investigate the effect of WSJ interference with NAFTA signatories regarding concerns about the impact of UL standards on GATT?

The preceding statement demonstrates the inappropriate and excessive use of acronyms (as well as one that is overly long and cumbersome). If acronyms are used to reduce volume or repetition in a proposal, convention requires the term to be spelled out in full the first time it is used and then followed by the acronym in parentheses. Thereafter, the acronym may be used in lieu of the full term. Even when spelled out on first use, abbreviations or acronyms should appear in the definition list.

8.6.3.6. Assumptions

Every study requires some assumptions; they will vary with the type of problem. Typically assumptions are things that could affect the results of the project, but are beyond the researcher's control. For example, one assumption could be that all members of the group being studied know Windows-based operating systems. Another assumption may be that employees will be willing to participate in the training exercise being proposed. Assumptions, of course, must be established as part of the proposal writing stage and they must be approved by the major professor and committee.

8.6.3.7. Limitations

Limitations are descriptions of potential weaknesses of a study. If the student knows about these at the time of generating the proposal they are advised to reveal them explicitly in advance. Often, however, in addition to any weaknesses known in advance of conducting a project, some invariably arise during the course of project execution. When this occurs, these new limitations are to be added to the limitations section of the final project report and they must be taken into account when discussing the project conclusions.

> **NOTE:** *The approved proposal is the contract for the study. If the proposal were ambiguous about its limits, the student could be required to gather further information to fill in missing gaps. It is very important to outline limitations in the proposal as they often assist in making sure committee expectations and student expectations match.*

8.6.3.8. Delimitations

Delimitations are restrictions in the scope of a project, that is, specific statements about things that you will NOT address. There are always constraining factors in a study. This is particularly true of projects in which time, money, and other resources are limited to those that the individual student can bring to the study.

A delimitation is a factor that will narrow the scope of the study being proposed. This is a factor that is known about before the study is performed. For example, one delimitation may be that time does not allow a follow-up after the initial treatment or evaluation. Will the study be limited to a single facility of Corporation X, or will it be conducted at multiple sites? Clearly, a multiple-site study is more generalizable than a study at a single location. However students must strike appropriate balance between generalizability and resource limits.

> ***NOTE:** Delimitations are distinctly different from limitations. A limitation is a potential weakness in a study. A delimitation is a specific, conscious limit in scope. Limits affect inference; delimits affect breadth of study.*

8.6.4. Chapter 2: Review of Literature

The review of literature serves several important functions. First, it is a method to indicate that the problem is more universal than the specific proposal. Second, it serves as a justification for the proposed study in that others have addressed related problems. Third, it positions the work in the field giving context to what has and has not been done and where this project/thesis is positioned therein. Fourth, it identifies possible methods for the conduct of the study by identifying possible data collection strategies, statistical procedures, or sources of other procedural information.

There are three principle justifications for additional investigation of a problem. One justification is that there are plausible alternative hypotheses to conclusions reported in existing studies. That is, there may be another possible variable that is influencing the results of existing studies. The second reason for proposing a new study is to determine if the reported study can be duplicated (replicated) in a new environment. A third reason for conducting a study accounts for the introduction of new data or procedures that have become available. In this case, the review of literature serves to demonstrate that no examples of the use of new techniques could be found.

Typically reviews of the literature sections include some appropriate description of four sections:

- A description of the problem and its significance
- A description of the methodology and terms employed to conduct the review of the literature itself
- A description of the literature pertinent to choices of data collection and analysis
- A summary of the review of the literature section

For the purposes of a proposal, the review of literature should focus on the key studies. These cannot be determined without extensive review of the literature prior to the preparation of the proposal. The review must be sufficiently extensive to insure that all sides of an issue have been researched and that a balanced evaluation of the problem area has been accomplished. Only the most germane or seminal studies should be included.

Committee members will typically ask discipline- and literature-based questions regarding the problem, significance, purpose and procedure sections. While it is imperative that the proposal's literature review be summarized, it is equally important that extensive literature review be done before undertaking the writing of the proposal. It is infinitely easier to do a thorough research review prior to the writing of the proposal for another reason: the more the problem is studied, the more possible solutions will be discovered. Also, it should be noted that reviewing of the literature does not cease after a proposal is accepted. Typically, effective researchers/developers continue to review the most pertinent literature throughout their conduct of the study. Subsequently, all appropriate literature will be integrated into the final report/thesis, so the time and effort will not be lost.

The review should generally concentrate on the current literature. For example, if the student is interested in a "Hawthorne effect" study, reference to the original work is only appropriate in a historical context. Failure to review the current literature can fatally flaw the proposal. A study that has recently been conducted may inadvertently be proposed.

8.6.5. Chapter 3: Methodology

All procedures to be used in the proposed study should be defined. Whenever possible, the proposed procedure should be justified by reference to other published studies that were used and recommend the steps defined. This will insure that the advisory committee understands the steps the student wishes to take and establishes those steps as appropriate in other published studies.

Dissertations in the College of Technology typically include the creation of something and an assessment of it. The "something" might be an intervention to be used on humans, an apparatus, a new process, a new technology and so forth. However, this alone is not sufficient. The thing created must also be assessed or evaluated. This assessment could be a physical test (such a testing the new thing to see how it performs), a statistical test (such as comparing measures before and after and executing statistics on it to evaluate how it performs).

Most dissertations can be classified along multiple dimensions as to the type of research being done. Projects can fall in to the following classifications:

- Quantitative, qualitative or mixed methods
- Clinical or technical
- Human subjects or "things and stuff"
- Theoretical or applied

The important thing to note about research in the College of Technology is that there is not one type or only one class of research. Research in the College of Technology is as varied as the physical attributes of the students who choose to pursue their degree within it.

8.6.6. List of References

The reference list should include only the publications cited in the body of the proposal. All reference citations within the body of the proposal and the reference list must comply with the standards of the most recent edition of the Publication Manual of the American Psychological Association.

8.7. Obtaining Permissions to Conduct Research

To conduct research often requires various types of permission, depending on the type of research being conducted. For example, use of human subjects (even for what many consider innocuous research such as anonymous surveys) requires IRB approval. Purdue University's Office for the Vice President for Research (VPR) provides information on the necessary approvals needed for various types of research (http://www.purdue.edu/research/vpr/). Graduate students are encouraged to discover the type of permissions they might need to obtain by reviewing the materials provided online via the VPR's web site, discussing it with the chair of their graduate committee, and reviewing the available workshops provided by the Graduate School's Responsible Conduct of Research (RCR) web site (http://www.gradschool.purdue.edu/RCR/).

8.8. Preparing the Final Dissertation

Students must become very familiar with the Purdue Graduate School's Thesis Manual and template even before they begin writing the final dissertation. It is good practice for the student and their major professor to confer and agree on an initial outline for the dissertation. Furthermore, to make it easier to establish consistency throughout their document, students are advised to also become comfortable with the paragraph heading style and outlining features of their word processor.

> *NOTE: Color figures may be used within the dissertation.*

> *NOTE: If a dissertation is greater than 350 pages, it must be separated into two volumes. Consult with the Graduate School for how this is done.*

8.8.1. Final Dissertation Contents

The exact structure of a dissertation is subject to committee approved adaptations as long as the resulting document still meets the CoT's format parameters. The typical dissertation consists of five chapters which are supplemented by some preliminary and appendix materials as shown in the outline below:

- Cover Page
- Abstract
- Dedication

- Acknowledgements
- Table of Contents
- List of Tables
- List of Figures
    - Chapter 1: Introduction
    - Statement of the Problem
    - Research Question/Hypotheses (if applicable)
    - Significance of the Problem
    - Purpose of the Study
    - Definition
    - Delimitations
    - Limitations
    - Summary
- Chapter 2: Review of the Literature
- Chapter 3: Procedures and Data Collection
  The outline of this chapter is highly variable, but typically it includes sections describing:
    - The methods employed to conduct the study
    - Justification for selection of the chosen methods
    - Instrument and data collection process development and validation
    - Description of the data collection
- Chapter 4: Presentation of Data
    - The outline of this chapter is highly variable, but typically it includes sections describing:
        - Description of data conditioning and analyses
        - Presentation of the data
        - Discussion as needed
- Chapter 5: Conclusions, Discussions and Recommendations
    - Conclusions
    - Discussion
    - Recommendations
    - Summary
- List of References
- Appendices
- Vita

8.8.2. Chapter 4: Presentation of the Data

Chapter 4 of the dissertation provides a presentation of the data. Typically chapter 4 does not include interpretations or conclusions; it simply presents the facts of what the data say. In quantitative research, this may be elaboration on the results of statistical tests, or the results of tests of an apparatus or new device. In qualitative research, this chapter typically presents the narratives from interviews, raw documents or other artifacts discovered. Interpretation of what the data mean, that is, conclusions made from the data are typically reserved for chapter 5 of the dissertation.

8.8.3. Chapter 5: Conclusions, Discussion, and Recommendations

Chapter 5 of the dissertation focuses on the conclusions that can be drawn from the data, as well as discussion (where the conclusions are typically tied back or compared to the literature in the field and the existing findings in the field. At the end of this chapter are recommendations; usually this is a discussion of parts of the dissertation that could be expanded to form entire studies in their own right. Recommendation may also include things the researcher would have done differently in the current study.

There are different ways to structure chapter 5. Sometimes the writer will take each research question and its associated hypotheses and deal with them in turn (in the conclusions). At other times, other structures can be used. Ultimately, chapter 4 and 5 should be written as dictated by the research, the researcher, and the final examination committee.

NOTE: There are times when a dissertation might have more than five chapters. Depending on the scope or breadth of the study, more chapters may be necessary. Typically chapters 1 thru 3 are standardized in the contents they contain. However subsequent chapters vary in title and contents depending on the research being conducted.

8.8.4. Appendices

The appendices of a dissertation are used to provide supporting materials to the work. There is no set number of appendices, nor is there a common structure. Related to structure, appendices are usually ordered in the manner in which they are referenced in the body of the material (and, indeed, all appendices should be referenced in the text body that occurs in the chapters). Some examples of items that might be included in the appendix of a dissertation include:

- IRB or other approval documents that establish the ability to conduct the research or conduct it in a legal manor.
- Tests, surveys, or other instruments used in the study.
- Examples of code, programs or images used in the study.
- Transcripts of interviews, focus groups or other qualitative data.
- Raw quantitative data gathered during the study.

NOTE: With anything included in the dissertation, the writer must insure that they maintain anonymity (where applicable) and do not break copyright agreements (for example, most tests are copyrighted).

With all of these items, the goal is to provide enough detail in the dissertation that someone else could take the dissertation and replicate it.

8.9. Plagiarism, Falsification, and Fabrication

Purdue University maintains the highest academic and ethical standards research conducted by faculty and graduate students. It is important to note that the university sees

the acts of plagiarism, falsification and fabrication as equal as acknowledged by the following university policy on research conduct:

"Research misconduct" shall mean, for the purposes of this policy, fabrication, falsification, plagiarism, or other practices that seriously deviate from those that are commonly accepted within the scientific and academic community for proposing, conducting, or reporting research. It does not include honest error or honest differences in interpretations or judgments of data (Excerpt from the *Purdue University Policy on Research Misconduct (VIII.3.1)*).

8.9.1. Plagiarism

Plagiarism is serious violation of research conduct and every researcher, faculty and graduate student needs to be conscious of what it is, and how to avoid it. Plagiarism is to steal or pass off the words, ideas, or intellectual product of another as one's own. It is essentially literary theft as it regards works of a written nature. Plagiarism is typically defined as the use of four or more adjacent words from a specific source.

To avoid plagiarism, you must give credit whenever you use:

- Another person's idea, opinion, or theory;
- Any facts, statistics, graphs, drawings—any pieces of information—that are not common knowledge;
- Quotations of another person's actual spoken or written words; or
- Paraphrase of another person's spoken or written words.

8.9.2. Strategies for Avoiding Plagiarism

The following are some general strategies to avoid unintended plagiarism:

1. Put in quotations everything that comes directly from the text, **especially when taking notes**.
2. Paraphrase, but be sure you are not just rearranging or replacing a few words (which is conscious plagiarism). Instead, read over what you want to paraphrase carefully; cover up the text with your hand, or close the original source so you can't see any of it (and so aren't tempted to use the text as a "guide"). Write out the idea in your own words without peeking.
3. Check your paraphrase against the original text to be sure you have not accidentally used the same phrases or words, and that the information is accurate.

8.9.3. Guidelines for Quoting and Citing

The following are some guidelines that can be used for determining when to quote and when to cite material from other sources:

- If paraphrasing or writing about the ideas presented by another, citation is necessary (Mohler, 2008).

- If using four or more words (even with "permission to use"), quotation and citation is necessary. Quotations over 40 words long should be "blockquoted" as per APA format specifications.
- All quotations require a page number following the quotation or integrated into the citation.
- **If you are in doubt how to give credit, quote and cite the source.**

8.9.4. Purdue University Form 20: Research Integrity and Copyright Disclaimer

Appendix M shows the required form that all graduate students are required to complete and include in dissertations. This is typically the second page of the thesis document. This form verifies that the material submitted as the thesis is original and that the student has the right to include it. Section 9.5 acknowledges the need for this form prior submission of the thesis for deposit with the university, college and graduate committee.

8.9.5. Self-Checking for Plagiarism

To assist Purdue students, the Graduate School, in partnership with the Office of the Vice President for Research, has initiated this voluntary self check service called *Check Yourself*. The software checks submitted documents against thousands of articles that are published in journals and conference proceedings as well as text that appears on the Web. A similarity report is generated that highlights excerpts in the submitted document that match similar text in documents found in print and on the Web. Similarity reports can be helpful in detecting occurrences of inadvertent replication and neglect in referencing.

8.9.5.1. Rules Governing Usage

Check Yourself is expressly for use as a tool for checking documents before submission to committees, journals, publishers, and archives, to help students prevent incidences of unintended plagiarism. The service is free for Purdue graduate students and is only for individual use.

Use of the service by students is limited to individual work authored or co-authored by the student for the purpose of screening for potential plagiarism violations prior to submission. The screening service is not to be used for checking the work of others; screening articles of any kind previously submitted for publication; or screening documents of any kind previously submitted for deposit with the Graduate School, for review by an academic committee, or for archiving within the University.

Since the report generated by *iThenticate* only provides citations of language similarity, judgment on the part of the student is often necessary as to whether the submitted text is substantively different from similar text found in the literature. Students are encouraged to seek assistance from their advisors and to consult the Graduate School resources— http://www.gradschool.purdue.edu/RCR/.

8.9.5.2. Procedure for Using Check Yourself

Each department has been asked to identify a *Check Yourself* administrator who will receive electronic copies of student work, run an *iThenticate* similarity report, and return the report results to the student. A list of the *Check Yourself* administrators for each school and college can be found at http://www.gradschool.purdue.edu/programs/contacts.cfm.

Check Yourself is a courtesy provided by the University and is only to be used for the purposes described herein. Documents for screening should be sent to the *Check Yourself* administrator by email, along with a completed submission request form (see Appendix O for an example), which should be included in the body of the email. Acceptable submission document formats include Microsoft Word, searchable pdf, LaTex, postscript, and plain text. Scanned documents converted to pdf or encapsulated in Word or LaTex are not acceptable.

> *NOTE: As of the revision of the CoT Graduate Handbook in the summer of 2010, the above information is all that is available relative to the Check Yourself software and the process for using it. Students should check the Graduate School web site or consult with the Graduate Coordinator in the CoT for addition information or procedures related to the use of this self-check service.*

8.10. Copyright Issues with Figures

Figures and images included in a dissertation can pose significant issues for authors. Generally, any figure that is directly from another source, such as a journal, book, or other publication (including web publications) are copyrighted. Including them within one's dissertation requires more than just a citation if used directly from the source. If you desire to use an image from another publication or from an online source, the safest course of action is to secure a release to do so. Otherwise, it could be classified as copyright infringement. A secondary method, albeit in certain cases it could still be considered copyright infringement, is to redraw the image. However, in many cases, redrawing or recreating the image is not enough to ensure it is still not a copyright infringement.

A release to use an image can vary from a specific legal document to a simple email. The key element of a release is that the "copyright holder" gives you permission to use the image for your dissertation. Yet, determining who the copyright holder is can sometimes be quite difficult. And, often authors do not fully understand what rights they have.

If you want to use an image, the first course of action is to email the author of the source from which the image is being taken. A release from an author needs to include two things:

1. That the author has the right to grant use of the image.
2. That he or she gives permission for the image to be used in the dissertation.

It is always a good idea, even if an author gives permission, to follow up with the publisher of the source from which the image is taken and ensure a release is not also needed from the publisher.

As with issues of plagiarism, copyright infringement issues resulting from the illegal use of images is a serious matter. The graduate student should do everything in his or her power to ensure the legitimacy of the use of materials in his or her thesis. It is safer to not include an image if you cannot secure appropriate permissions than run the risk of copyright infringement.

> ***NOTE:*** *Questions related to the use of images may be directed to the College of Technology Thesis Advisor, Dr. James Mohler.*

SECTION 9.0. POST-DISSERTATION ACTIVITIES

The following section outlines the specific tasks and activities that occur once the student has executed and documented her or his dissertation.

9.1. Appointment of the Examining Committee & Scheduling the Final Oral Examination

The major professor and student are jointly responsible for finding a common date, time, and period when all final examination committee members can meet for the final examination and this must occur within the deadlines established by the Graduate School. The graduate student is expected to take initiative to begin this procedure in conjunction with the availability of the chair and committee. Typically the Graduate Coordinator in the College of Technology will find appropriate facilities for the meeting. The date, time, period and facilities for the meeting are to be transmitted to the College of Technology Graduate Studies Office by the student via the CoT Form 1 (see Appendix H). The GS Form 8 is generated from the CoT Form 1 and filed with the Graduate School (see Appendix G). **Both forms are required to be submitted three weeks in advance of the final oral examination.**

Following the notice of final examination date, the Graduate Coordinator in the College of Technology will schedule an appropriate meeting room (equipment other than standard equipment offered by Purdue is the responsibility of the student to arrange) and prepare the necessary forms.

The day prior to the final examination date, the Graduate Coordinator in the College of Technology will forward a file of relevant student records, including Graduate School Form 7, Report of the Examining Committee, and candidate audit forms to the major professor (see Appendix P for an example of the Form 7). Following the oral defense, it is the major professor's responsibility to obtain all required committee member signatures and return the signed form to the Graduate Coordinator in the College of Technology in advance of the established deadlines.

9.2 Completing the TECH 699 Requirement

At the conclusion of the final oral examination, the major professor and each member of the examining committee will sign the Graduate School Form 7, Report of the Examining Committee form; the major professor will forward the form to the Office of Graduate Studies for processing (see Appendix P).

> *NOTE: The Graduate School permits NO EXCEPTIONS to its published deadlines for graduation.*

If any problems or deficiencies in the report are indicated by the examining committee, these must be corrected before the dissertation will be approved by each committee member. In order for graduation to occur during any semester, completion of all required edits/corrections must occur and be approved before the established deadlines.

The last step involves submitting a copy of the approved dissertation to each of the following: University, College, and Graduate Committee. Sections 9.5, 9.6 and 9.7 cover each of these in detail.

9.3. <u>Formatting Review for Theses</u>

Students are required to meet with the CoT Thesis Format Advisor, Dr. Mohler, **at least two weeks** before they defend their dissertation. The last date to meet with Dr. Mohler for a thesis formatting appointment is two (2) weeks prior to the last day to defend the dissertation. A formatting appointment is mandatory. If you do not meet with Dr. Mohler and get his approval signature on the Form 9 (see Appendix Q), you **will not graduate** on time.

9.3.1. Formatting

For dissertations, the CoT has adopted the APA, parenthetical citation format as implemented by the university.

9.3.2. Formatting Your Thesis

TECH 646 (a required course for most students) assists the student in developing their proposal and therefore covers how to format the dissertation. If you are not required to take that course, the following provides some guidelines you should follow to ensure your dissertation is acceptably formatted.

Foremost, students should use the University Microsoft Word Thesis template which is available on the Graduate School's web site (http://www.gradschool.purdue.edu /thesis.cfm). This template has styles included within it to make formatting less cumbersome. The Graduate School also holds seminars on use of the template and following the formatting requirements.

Note that there are a few things that the template will not do. Even when using the thesis template, students must:

1. Ensure that they do not use vertical lines in tables.
2. Properly format captions for tables and figures (including proper italics for each).
3. Ensure proper tabs for each paragraph and proper hanging indents on references.

Other specifics of the format can be seen in an example document that can be used as a guide for formatting theses and dissertations (http://www.tech.purdue.edu/cgt/ academics/graduate/mohler_dissertation.pdf).

9.3.3. Scheduling and Attending the Meeting

To make a thesis formatting appointment with Dr. Mohler you will need to email Debbie Hulsey (dhulsey@purdue.edu). Once Dr. Mohler has approved your thesis you may schedule your defense. It is recommended that you make your appointment with Dr. Mohler early.

When a student goes to the format meeting, she or he should bring:

1. A 100% complete, unbound printed copy of the dissertation.
2. A digital copy on a USB drive.
3. At least one copy of the GS Form 9 on 100% cotton paper for Dr. Mohler to sign.

> *NOTE: It is advised that students have multiple copies of the GS Form 9 for the committee to sign (see section 9.7). Only one copy is required (for university deposit, see section 9.5).*

9.3.4. Thesis Pre-review

If a student is in doubt whether their document is formatted correctly, they may email a sample from their thesis or dissertation to Dr. James Mohler for review and comment (jlmohler@purdue.edu). "Pre-review" meetings are also a possibility but must occur before the sixth (6th) week of each semester

9.4. The Final Oral Examination

Once the format review meeting is completed, the student prepares for their final oral examination (dissertation defense). At most final oral examination meetings, the student conducts a 30 to 45 minute presentation and then the faculty committee is allowed to ask questions. If time permits, guests in the audience may also ask questions, but this is at the discretion of the chair. Students should discuss the final oral examination meeting with her or his chair in advance to verify the method by which the chair will conduct the meeting.

In addition to presenting and answering questions relative to the dissertation, the student will need to prepare and bring to the final defense the GS Form 9, GS Form 14 and GS Form 20 on 100% cotton paper (see Appendix Q, R, and N, respectively). It is advised that students have multiple copies of the GS Form 9 for the committee to sign (see section 9.7). Only one copy is required (for university deposit; see section 9.5).

9.5 University Deposit of the Dissertation

Following successful defense of the dissertation, students must deposit their dissertation with the Graduate School. The deposit meeting is a face-to-face meeting in which the graduate student provides an electronic copy of their dissertation, as well as the following completed forms:

- GS Form 9: Thesis Acceptance (see Appendix Q)
- GS Form 9 ETD: Electronic Thesis Deposit (see Appendix S)
- GS Form 14: Addendum to the Doctoral Agreement (see Appendix R)
- GS Form 20: Research Integrity and Copyright Disclaimer (see Appendix N)

> *NOTE: All the forms to be submitted to the Graduate School must be on 100% cotton paper.*

> *NOTE: The graduate chair or the student may desire to hold the thesis in confidentiality status for a certain period of time. Both graduate chair and*

> *student must agree on confidentiality status. GS Form 15: Request for Confidentiality should be filed at the time of deposit if confidentiality is desired (see Appendix T for an example of the form).*

Please note that the Graduate School no longer schedules precheck appointments. These have been replaced by the online tools available on the Graduate School's website as well as scheduled presentations to departments, organizations, and interested groups.

To schedule a final deposit appointment, please contact Mark Jaeger at 494-2600/markj@purdue.edu or Anita Park at 494-2600/apark@purdue.edu in the Graduate School.

> ***NOTE:*** *Following the thesis deposit, student must pay a mandatory ProQuest fee. See section 9.9.*

9.6. College Deposit of the Dissertation

The College of Technology no longer requires a printed and bound copy of the dissertation. The College now requires a digital copy for the College of Technology be submitted electronically to the Purdue e-Pubs site (http://docs.lib.purdue.edu/tech/).

9.6.1. Final Signatures on GS Form 9

The final signature on the GS Form 9 (see Appendix Q) will be the Head of the Graduate Program, Dr. Gary Bertoline. Please see Debbie Hulsey in Knoy 463 to obtain Dr. Bertoline's signature on the Form 9**.** After depositing your thesis electronically with the Graduate School, you will then submit the college copy electronically at the College of Technology Purdue Libraries e-Pubs site.

9.6.2. For Assistance with Submitting to the Purdue e-Pubs Site

A help document for submitting to the Purdue University e-Pubs site is located at: http://www.tech.purdue.edu/Graduate/documents/epubsInst.pdf.

9.7. Copies of Final Dissertation for Graduate Committee

After depositing your dissertation with the e-Pub site, it is common practice to provide a copy to each of your examination committee members. Most faculty prefer a traditionally printed and bound copy of the project, whereas others might prefer a digital/electronic copy. Confer with your chair to determine which he or she prefers. Typically whatever is done for the chair is also done for the rest of the committee. If your chair requests a bound copy, The Purdue University Boiler Copy Center can assist you. Typically faculty request a "case (book) bound" copy. More information about this may be found at: http://www.purdue.edu/printingservices/services/thesis.htm.

9.8. Additional Requirements for Graduation

Additional items that Ph.D. students must complete for graduation include:

- *Graduate School Survey.* All students must complete the Graduate School Exit Survey if they wish to graduate. Students typically receive an email and/or

notification in the *myPurdue* system that details how they complete this requirement.

- *ProQuest Fee and optional Copyright Fee.* Students must pay a mandatory $65 fee to *ProQuest*. If students would like their dissertation to be officially registered with the U.S. Copyright Office, they may pay an additional $65 fee. Typically students pay their *ProQuest* fee following the deposit of their dissertation to the university (see Section 9.6). However, they may pay it early by going to the Bursar's teller window and inquiring about the fee.

9.9. <u>Participating in Commencement</u>

All graduating students are encouraged to participate in the university's commencement ceremonies. This is a time justifiably used to reflect on your accomplishments with pride and to share in the success of others, including the faculty, as well. Information pertaining to commencement (dates, attire, etc.) is available via: http://www.purdue.edu/registrar/.

SECTION 10.0. OVERALL DOCTORAL DEGREE PROCEDURAL CHECKLIST

To help students progress through their degree requirements, the following checklist will help map a path through the College of Technology's Doctor of Philosophy program. Specific and official deadlines are announced each semester, posted on the CoT Graduate webpage and are also available from the College's Graduate Office.

10.1. First Semester

1. If the transcripts submitted with the application for admission were not complete, arrange to have two (2) copies of the final transcript showing receipt of degrees sent to the Associate Dean for Graduate Studies, College of Technology, 401 N. Grant St., Purdue University, West Lafayette, IN 47907-2021.

With the help of the major professor:

2. Discuss your career and educational objectives and, within the framework of the College of Technology Doctoral Degree and draft a preliminary plan of study. Review the optional Areas of Concentration as you work.

3. Select a Doctoral committee consisting of your Major Professor and at least two graduate faculty members. At least two of your committee members must be regular, College of Technology graduate faculty. You may select one or more additional faculty to serve on your committee and in some cases this is clearly advantageous (see section 4.3 and 4.4 of this handbook).

4. Discuss the preliminary plan of study with each of the members of the advisory committee (see section 5.0 of this handbook).

5. Using the Electronic Plan of Study (EPOS) system, submit your draft plan of study to your committee members and the College of Technology Graduate Office (see section 5.0 of this handbook).

6. Refine the plan of study, if needed, based on the committee's suggestions.

7. Using the Electronic Plan of Study (EPOS) system, submit your final plan of study to your committee members and the College of Technology Graduate Office (see Section 5.0 of this handbook).

8. Identify a tentative research area.

9. Register for classes for the next semester following approval of the plan of study (see Section 4.5 of this handbook).

10.2. Succeeding Semesters

1. Register for classes as appropriate for the next semester (see section 4.5 of this handbook).

2. Register for TECH 646 (during your third or fourth semester) and begin planning for your dissertation research (see section 8.4 of this handbook).

3. In the final semester of required coursework, schedule your preliminary oral examination (see section 5.3 of this handbook). Verify your candidate status after passing your preliminary oral examination.

4. In either your final semester of coursework or the semester immediately following your preliminary oral examination, sign up for one (1) to (3) credits of TECH 699 to create and defend your dissertation proposal (see section 8.1 and 8.2 of this handbook).

5. Prepare your dissertation proposal (see section 8.5 of this handbook).

6. Schedule your proposal defense meeting (see section 8.3).

7. Following approval of your proposal, sign up for appropriate amounts of TECH 699 credit each semester until completion of your dissertation research (see section 8.1, 8.2, and 9.2 of this handbook).

10.3. Final Semester

1. Register for your final TECH 699 credits see section 8.1, 8.2, and 9.2 of this handbook).

2. Insure that any changes in your plan of study have been approved using the Change process within the electronic plan of study generator, located on *myPurdue*. (See section 5.0 of this handbook).

3. Verify with the CoT Graduate Coordinator (Debbie Hulsey) your candidate status.

4. Using the CoT Form 1: Request to Schedule Oral Exam Form, arrange the scheduling of the final oral examination at least three weeks prior to the exam date. Also submit a Request for Examining Committee (GS Form 8) no less than two weeks prior to the exam date (see section 9.1 of this handbook).

5. Schedule Thesis Format Advising meeting with Dr. James Mohler to occur prior to the final oral examination via the CoT Graduate Coordinator, Debbie Hulsey (see section 9.3 of this handbook).

6. Schedule University deposit meeting with Mark Jaeger in the Graduate School (see section 9.5 of this handbook).

7. Use Purdue's Check Yourself system to check the authenticity of your dissertation (see section 8.9.5 of this handbook).

8. Satisfy the final oral examination requirement and make any revisions to the dissertation that are required by your committee (see section 9.4 of this handbook).

9. Attend university deposit meeting with Mark Jaegar (see section 9.5 of this handbook).

10. Submit a final copy of your dissertation to the Purdue Library e-Pubs section prior to the deadline established by the CoT Graduate Studies office (see section 9.6 of this handbook).

11. Provide final copies of your dissertation to your chair and graduate committee (see section 9.7 of this handbook).

APPENDIX A:

PH.D. PROGRAM PLANNING TEMPLATE

(available at http://www.tech.purdue.edu/Graduate/)

Ph.D. Program Planning Template

Degree Component	Minimum Hours	Existing Courses Taken as part of MS	Courses to be Taken (including a maximum of 9 sch transfer)

Technology Major
• Core
  o TECH 646 Analysis of Research in Industry and Technology
  o MET 527 Technology from a Global Perspective
  o TECH 621 Seminar in Technology (repeated)
• Focus Courses (TECH or any COT department prefixed course, others only with committee approval)
	21		(a minimum of 15 credits of new COT courses is to be taken)
			(Independent Study – Tech 690 – 9 credits maximum)

Cognate	12		
Discovery Foundations • Multivariate statistics • Qualitative & alternative methodologies • Experimental design & Research methodology	12		
Dissertation/Research	15 min – 30 max		
Total	---------	**Maximum 30**	**Minimum 90** (including those in Existing Courses column)
Other Coursework			

Suggestions for Use:
1. Have student's reflective self-assessment, and their description of the contributions they wish their Ph.D. program to make to their development, on hand.
2. Have student enter each of their master's degree courses in the appropriate row of the **Existing Courses** column.
3. Have student enter each of their already completed courses beyond the master's degree from Purdue or another university in the appropriate row of the **Existing Courses** column. A maximum of 9 hours is permitted.
4. In interaction with the student/advisor, enter the most appropriate courses that will build the desired competencies in the appropriate rows of the **Courses to be Taken** column. No 300 level courses may be included in this column and 400 level courses may only be used if required as a prerequisite for 500 and 600 level courses included in the plan of study.
5. Adjust the coursework until all the hour minimums are met or exceeded.
6. Confirm that the Technology Major and Cognate degree components include a minimum of 12 semester credit hours of 600 level courses.
7. Confirm that no more than 9 hours max of Independent Study (Tech 690) is included on the plan of study.
8. Confirm that the plan of study includes at least 15 hours of new Ph.D. program coursework to be taken in the Technology Major.
9. Research (TECH 699) credits not part of courses listed in POS but count towards total hour requirement.

APPENDIX B:

REQUEST FOR REDUCED COURSE LOAD

(available at http://www.iss.purdue.edu/)

Reduced Course Load (RCL) Request Form

**Do not register for a course load (or drop a course) that will place you in RCL status without first obtaining DSO (Designated School Official) permission. RCL approval may be obtained by completing Sections I & II of this form and then meeting with a DSO in the Office of International Students and Scholars (ISS).

RCL Definition:
- Less than 12 credits hours for international undergraduate students
- Less than 8 credit hours for international graduate and professional students without a graduate staff appointment or employment-based fellowship
- Less than 6 credit hours for international graduate and professional students with a graduate staff appointment or employment-based fellowship

Exception: Students who engage in full-time Curricular Practical Training (CPT), full-time optional practical training (OPT) or academic training (AT) are not required to be registered full-time and do not need to complete this form.

SECTION I: Student Use Only

Complete items 1 - 5 below and then submit this form to your Academic Advisor (undergraduate students) or Chair of Departmental Graduate Committee (graduate/professional students) to complete Section II.

1. **Name**:_____

2. **PUID**:_____ **(10 digit PUID Number)**

3. **Semester for which RCL is Requested**: ___Spring ___Summer ___Fall Year 20____

4. **Reason for RCL Request:**

_____ Medical (must include a letter from a medical professional recommending reduced course load)

_____ Improper course placement

_____ Initial English language difficulties

_____ Initial unfamiliarity with American teaching methods

_____ Last semester of a student's academic program (Graduate level students only who will complete all degree requirements during the requested RCL semester need to apply. Undergraduate students can enroll part-time their last semester and do not need to process an RCL form.)

5. **Student Explanation** (attach additional typed sheet, if needed):_____
_____
_____
_____

Section II: Undergraduate Academic Advisor or Chair of Departmental Graduate Committee.

Please mark accordingly: ____ Undergraduate   ____Graduate (Non-Thesis)   ____Graduate (Thesis)

Recommendation: ___ Recommend approval   ___ Do not recommend approval

REASON: (Provide justification for decision based upon a reason listed above in Section I, #4)
_____
_____
_____
_____
_____

Recommended by: (Printed Name)_____

Signature: _____   **Date:** _____

Title: _____   **Dept.**_____

**Students must bring this form to ISS for approval before taking a reduced course load (RCL).

2/8/2010

APPENDIX C:

GS FORM 12: REQUEST FOR RESEARCH IN ABSENTIA
(available via the Electronic Plan of Study Generator on myPurdue)

Graduate School Form 12
(Revised 6/06)

PURDUE UNIVERSITY
GRADUATE SCHOOL
Request for Ph.D. Degree Candidate Research in Absentia
(See registration procedures on reverse side.)

Name of Student _____ PUID No. _____

Current Address _____

Absentia Address _____

Department _____ Department Code _____

Session Effective _____

1. The following items are required to petition for the absentia privilege. Have you:
   a. satisfactorily completed all of the coursework on your plan of study?   yes   no
   b. passed your preliminary examinations?   yes   no
   c. made significant progress on your dissertation research topic?   yes   no

2. Give the specific title of your research project or investigative area, and describe briefly the status of your research project and the nature of the work to be done in absentia.

3. Give the name and the location of the institution or organization at which you will be located, the name of any local supervisor, and list any facilities you will be using.

4. What Purdue facilities will you be using, and how will adequate supervision be maintained by your major professor?

5. What is the expected date of completion of your dissertation? _____

6. What is the number of credits for which you expect to register each semester? _____ *
   *If requesting more than three credits, justification is required. (See below.)

If this request is approved, I agree to register every consecutive session (excluding summer) until the degree has been awarded, my program is terminated, or I withdraw from the University. I understand that I should check the time-to-degree limits of my department and that if my degree program exceeds this limitation, the department may block continuing registrations. I also agree to notify the bursar of any change in my absentia address. I understand and agree to the conditions set forth for the privilege of registering for research in absentia.

_____   _____
                        Signature of Student   Date

Approval
Recommended   _____   _____
                        Major Professor   Date

        Current Designator Code _____   Graduate Faculty Identifier _____

Approval   **Graduate School Dean**
Recommended   _____   _____
                        Head of the Graduate Program   Date

Submit original to the Graduate School not less than one month preceding the session in which absentia registration is desired.

PURDUE UNIVERSITY
GRADUATE SCHOOL

Ph.D. Degree Candidate
Research in Absentia Registration Procedures

Standard registration for research in absentia is for three credit hours. In special circumstances, students who will be devoting substantial time to research may request permission to register for additional research credits up to 18 credit hours for full-time effort and a proportional registration in the summer session. Registration requests for more than three credit hours must be approved by the dean of the Graduate School. Requests must be supported by an accompanying statement prepared by the major professor and approved by the head of the graduate program. This statement should provide information about the student's employment status and the level of support provided for the student's research in terms of facilities and/or release time. The duration of this support also should be indicated.

After approval of this request by the dean of the Graduate School, the registrar will enroll the student for research in absentia, and the bursar will produce a fee statement and supply instructions for payment. Each session thereafter (except summers) until the degree has been received, this procedure will be repeated during the advanced registration period. If a student is registering for more than three credit hours, the registration form must be approved by the Graduate School each session. The student is responsible for informing the bursar of any changes in mailing address. Late payment of fees will be subject to the normal penalty fee. Nonpayment of the fees will terminate the student's registration and cancel the absentia privilege.

Summer session registration is not required unless the student expects to receive a degree at the close of the session. Summer registration should be processed through the student's major department, utilizing the *Course Request (Registrar's Form 23)*, in the same manner as for a regular course.

Once a student stops registering in absentia, that student cannot register for absentia for a later session. Knowing this, if a student still wishes to stop registering for absentia credits, the student should contact the major professor to request that a *Course Request (Registrar's Form 23)* be completed. The 699A credits can be "dropped" by providing a note in the comment box that the absentia registration should be terminated. The *Course Request* must be signed by the student, the major professor, and the head of the graduate program.

APPENDIX D:

HRS FORM 33F: REQUEST FOR CHANGE IN STATION
(available via http://www.purdue.edu/hr/)

HRS FORM 33F (05/07)   Select One: New ○ Revised ○
REQUEST FOR SABBATICAL, RESEARCH, OUTSIDE ACTIVITY LEAVE OR CHANGE IN DUTY STATION
Faculty and Staff: Complete Sections 1 & 2, then sign and route the form for approval (Section 3).

Section 1. COMPLETED BY EMPLOYEE

A. Name:	D. PERNR:
B. Org Unit:	E. CUL (FTE):
C. Cost Center:	F. Hire Date:
	(Do not include grad student employment)

G. Type of Leave:

☐ Research/Travel

☐ Outside Activity Leave

☐ Change in Duty Station - States

☐ Change in Duty Station - Foreign

☐ Sabbatical - Date of last sabbatical: _____

☐ Other
(Provide explanation in Section 2)

Use Section 2 (or provide attachment) to describe the purpose and location of your proposed sabbatical leave in accordance with Executive Memorandum No. B-11

H. Leave Compensation: ☐ With Pay   ☐ With Partial Pay (CUL [FTE]) _____   ☐ Without Pay

I. Days Absent: Start Date: _____   End Date: _____
                                    MM/DD/YY   MM/DD/YY

J. Source of Salary Funding While on Leave:

Cost Center/Fund	Percent	Cost Center/Fund	Percent
Cost Center/Fund	Percent	Cost Center/Fund	Percent

Section 2. PURPOSE OF THIS LEAVE (Attach additional pages if necessary)

For Sabbatical Leaves: I acknowledge that I have read and understand the conditions and obligations attached to the granting of sabbatical leaves, as contained in Executive Memorandum No. B-11, and I acknowledge and agree that if the above request for sabbatical leave is granted, I will be contractually obligated to Purdue University to conform to the terms of said Executive Memorandum B-11. As a part of such obligations, I understand and agree that following completion of the requested sabbatical leave, I will return and will continue my service to Purdue University for at least one additional academic/fiscal year (specified). I further understand and agree that in the event of breach of this obligation, I will be obligated to reimburse Purdue University for all compensation (including cost of fringe benefits) paid to me for my benefit by Purdue University during the period of the sabbatical leave.

Section 3. SIGNATURES

		FOR BUSINESS OFFICE USE:	**APPROVED PRESIDENT'S OFFICE**
Individual Requesting Leave:	Signature Date	Sponsored Program Services:	Purdue University
Head of Department:	Signature Date	Reviewer Date	
Dean or Administrative Officer:	Signature Date	Human Resource Services:	Not valid unless dated and signed by authorized
		Reviewer Date	University Officer

Policies regarding absence from University duty are found at www.purdue.edu/oop/policies/pages/human_resources/human_res.html#leaves

Human Resources distributes completed copies to Business Office (provide employee copy) and HR Data Entry. Central Files retains original in employee's personnel file.

APPENDIX E:

SAMPLE PLAN OF STUDY

(available via the Electronic Plan of Study Generator on myPurdue)

Graduate Plan of Study

Status   **APPROVED**   **Submitted 05/18/2005**

Student	DOE, JOHN A.	123456789
Student Email	doej@tech.purdue.edu	
Department	TECHNOLOGY	TECH
Degree Title	MASTER OF SCIENCE : NON-THESIS	21
Date Degree Expected	May 2006	
Area of Specialization	HUMAN FACTORS	000
Research Area	AVIATION HUMAN FACTORS	

Supplemental Notes: Add A Supplemental Note View All Notes

Subject	Type	Author	Date Added
	PUBLIC		06/08/2005
	PUBLIC		09/19/2005

Items in purple are completed. / Items in green are incomplete.
**Courses: ** Grades posted here are as of the end of the semester that they were taken.
Late grade changes or title changes may not be reflected. If you see a discrepancy, contact
the Graduate School.**

Area	Courses Title	Subj. Abbr.	Course No.	Credit Hours	Regis. Type	Grade	B or better	Transfer From	Date Completed To Be Completed
PRIMARY	MEASUREMENT AND EVALUATION IN INDUSTRY	IT	50700	3	RE		-	-	May 2004
PRIMARY	QUAL & PROD IND & TECH	AT	50800	3	RE		-	-	Dec 2005
PRIMARY	MANAG RISK OF ORG ACCI	AT	57300	3	RE		-	-	Dec 2004
PRIMARY	APPLIED RESEARCH PRACT	AT	58100	3	RE		-	-	Aug 2005
PRIMARY	SOLV IND PROB APPL RES	AT	58100	3	RE		-	-	Dec 2004
PRIMARY	ANALYSIS OF RESEARCH IN INDUSTRY AND TEC	TECH	64600	3	RE		-	-	May 2004
RELATED	HUMAN ERROR	AT	57200	3	RE		-	-	Dec 2003
RELATED	BIOMETRICS TECH&APPLIC	IT	58100	3	RE		-	-	May 2004
RELATED	HUMAN FACTORS ISSUES	AT	59000	2	RE		-	-	Dec 2003
RELATED	HUMAN FACTORS IN AVIATION	AT	59000	2	RE		-	-	Dec 2004
RELATED	SAFETY ASSESSMENT	AT	59000	2	RE		-	-	Aug 2003

Purdue graduate course tallies:
Purdue POS GPA: 4
Purdue Primary Area Credit Hours : 18
Purdue Related Area Credit Hours : 12
Purdue Area Not Specified Credit Hours: 0

Language Requirement : None

Comments Regarding Exceptions or Requirements: None

Advisory Committee Information and Approval Status

Level	Names of Advisory Committee Members	Cert	Faculty Identifier	Status	Department Code	Advisor in Area of
50	GARY M. EIFF (CHAIR)	R	C9999	APPROVED by Gary M. Eiff 10/09/2005 15:58:08	T37	TECHNOLOGY
50	DENVER W. LOPP	R	C8888	APPROVED by Denver W. Lopp 10/09/2005 16:01:49	T37	HUMAN FACTORS
50	STEPHEN J. ELLIOTT	R	C7777	APPROVED by Stephen J. Elliott 10/09/2005 13:25:00	T37	TECHNOLOGY

Additional Authorization

Level	Authorization	Required Signature	Status
70	Student	John Doe	SUBMITTED 09/18/2005 11:59:41
60	Plan of Study Coordinator	Debbie Hulsey	APPROVED by Debbie Hulsey 10/09/2005 11:26:39
20	Graduate Program Authorization	Gary Bertoline	APPROVED by Gary Bertoline 10/20/2005 14:17:14
10	Graduate School Authorization	Patricia A. Springer	APPROVED by Patricia A. Springer 10/26/2005 09:20:50
0	Processor	Richard D. Coffman	PROCESSED by Richard D. Coffman 10/27/2005 12:59:18

APPENDIX F:

FLOWCHART OF EPOS PROCESS

EPOS Process

```
                        ┌──────────────────┐
                        │      Start       │
                        └──────────────────┘
                                 │
                                 ▼
                        ┌──────────────────┐
                        │ Student discusses plans/ │◄────────┐
                        │ aspirations with major professor │  │
                        └──────────────────┘              │
                                 │                         │
                                 ▼                         │
                        ┌──────────────────┐   ┌──────────────────┐
                  ┌────►│ Student submits draft EPOS │──►│ KH reviews draft EPOS │
                  │     └──────────────────┘   └──────────────────┘
                  │              │
                  │              ▼
                  │     ┌──────────────────┐
                  │     │ Student Graduate committee │
                  └─────│ members review draft EPOS and │
                        │ indicate via supplemental note or │
                        │ Email that EPOS is OK or needs │
                        │ revision │
                        └──────────────────┘
                                 │
                                 ▼
                        ┌──────────────────┐
                  ┌────►│ Student interacts with major │◄────────┐
                  │     │ professor if needed and then │         │
                  │     │ submits final EPOS │                   │
                  │     └──────────────────┘                     │
                  │              │                               │
                  │              ▼                               │
                  │     ┌──────────────────┐                     │
                  │     │ Final EPOS is reviewed by │            │
                  └─────│ Graduate Program Coordinator │         │
                        │ (KH) and when approved is │            │
                        │ released to committee members │        │
                        └──────────────────┘                     │
                                 │                               │
                                 ▼                               │
                        ┌──────────────────┐                     │
                        │ Committee members approve or │─────────┘
                        │ reject final EPOS │
                        └──────────────────┘
                                 │
                                 ▼
                        ┌──────────────────┐
                  ┌────►│ Graduate Program Head (MJD) │◄────────┐
                  │     │ approves/rejects Final EPOS │         │
                  │     └──────────────────┘                   │
                  │              │                             │
                  │              ▼                             │
                  │     ┌──────────────────┐                   │
                  └─────│ Graduate School EPOS Reviewer │       │
                        │ Approves/Rejects │                   │
                        └──────────────────┘                   │
                                 │                             │
                                 ▼                             │
                        ┌──────────────────┐                   │
                        │ Graduate School Chief Recorder │─────┘
                        │ approves or rejects (Coffman) │
                        └──────────────────┘
```

APPENDIX G:

GS FORM 8: REQUEST FOR APPOINTMENT OF EXAMINING COMMITTEE
(more information available at http://www.gradschool.purdue.edu/faculty/forms.cfm)

Graduate School Form 8
(Revised 2/90)

PURDUE UNIVERSITY
GRADUATE SCHOOL
Request for Appointment of Examining Committee
(Adaptable for any degree)

(Please type)

Name of Student ⬜   Student ID No. ⬜

Examination to be taken:

☐ Preliminary Examination

☐ Final Examination

Degree sought (exact title) ⬜

It is recommended that the following serve as members of the Examining Committee:

		Graduate Faculty Identifier	Area
⬜	Chair	⬜	⬜
⬜		⬜	⬜
⬜		⬜	⬜
⬜		⬜	⬜
⬜		⬜	⬜

It is planned to hold the examination:

Date ⬜   Time ⬜   Building ⬜   Room No. ⬜

Thesis Title ⬜

Recommended by: _____   _____
                        Major Professor   Head of the Graduate Program

Department ⬜   Dept. Code ⬜

Date Submitted ⬜

Graduate School Dean

Submit original plus one copy to the Graduate School

APPENDIX H:

COT FORM 1: REQUEST TO SCHEDULE ORAL EXAMINATION
(more information available at http://www.tech.purdue.edu/Graduate/
grad_course_docs/COT_Form1-RequesttoSchedule.pdf)

COT Grad Studies Form 1　　　　　　　　　　　　　　　　　　　　　　　*Please type or print clearly*

College of Technology
Graduate Studies

Request to Schedule Oral Examination
(Must be filed 3 weeks prior to exam date)

Major Advisor:	_____	☐ Directed Project
		☐ Thesis
Graduate Student:	_____	☐ Comprehensive Examination
Project/Thesis Title:	_____	_____

Exam Date: _____

Exam Start Time: _____

Exam End Time: _____

Equipment Required *(check all that apply)* :

☐ Overhead Projector
☐ Computer Projector
☐ Other (please specify at right) _____

Examining Committee Members:　　　　　　　　**Invited Guests Requested:**

_____　　　　　_____
_____　　　　　_____
_____　　　　　_____
_____　　　　　_____

Examining Committee Same as Advisory Committee?

☐ Yes
☐ No

Note: It is the College of Technology's graduate policy that the presentation portion of all final examinations be open to the university faculty and student communities

Requested By:

_____
Signature, Major Advisor

Grad Faculty Code: _____

NOTE: Please assume this request has not been received by the College of Technology Graduate Office until you receive confirmation.

CONFIRMATION: (For Office Use Only)	
Exam Date:	_____
Exam Time:	_____
Room Number:	_____
Equipment:	_____
Faculty & Students Notified (Date):	_____

APPENDIX I:

**GS FORM 11: REPORT OF DOCTOR OF PHILOSOPHY
EXAMINATION COMMITTEE**

Graduate School Form 11
(Revised 11/07)

PURDUE UNIVERSITY
GRADUATE SCHOOL
Report of the Doctor of Philosophy
Final Examination

Name of Candidate _____   PUID No. _____

Department _____   Department Code _____

Date Examination Held _____

Recommendation:

When the Graduate School has on file that all other requirements have been met, we

☐   Do recommend that the candidate be certified to the faculty for the degree of Doctor of Philosophy*

☐   Do NOT recommend that the candidate be certified to the faculty for the degree of Doctor of Philosophy

In the event the candidate is not certified for the degree, it is recommended that he or she

☐   Withdraw from the Graduate School

☐   Continue under the following conditions:

_____

_____

_____

Dissertation Award:

☐   Do consider nominating this student for an outstanding dissertation award

☐   Do NOT consider nominating this student for an outstanding dissertation award

Examination

Approve	Disapprove	Examining Committee:	Graduate Faculty Identifier
☐	☐	_____, Chair	_____
☐	☐	_____	_____
☐	☐	_____	_____
☐	☐	_____	_____
☐	☐	_____	_____

Recorded by: _____   _____

Head of the Graduate Program   Date

This report should be forwarded to the Graduate School as soon as the examination is completed.
*Not more than one dissenting vote is acceptable in certifying a candidate to receive the degree.

APPENDIX J:

INDEPENDENT STUDY REQUEST FORM AND INSTRUCTIONS
(available at http://www.tech.purdue.edu/Graduate/)

GRADUATE INDEPENDENT STUDY AUTHORIZATION FORM
College of Technology
Purdue University

(**NOTE**: A maximum of 6 hours credit for XXX 59000 is permitted on any plan of study program) (XXX=Dept. prefix)

(Please type or print all information clearly)

Student Name _____   Student I.D. # _____

Classification: Ph.D.   M.S.   PBR   Current or previous number of credits
                          (Circle one)   of Independent study credit: _____

(circle one)

I hereby request permission to enroll in XXX 59000 for _____ credits during the   Fall   Spring   Summer semester, 20__-20__. I plan

to pursue an independent study project of the problem, _____

_____
(Please insert title of course)

I will submit all deliverables by: _____
                                                                  Date

_____   _____
Student's Signature   *Date*

I request that credit apply to: Master's Degree   Doctoral Degree   Non-degree Study
                                                                                                    (Circle one)

I am willing to guide the independent study outlined in the attached prospectus and I agree to the deadlines indicated above.

_____   _____   _____
Professor in Charge of Instruction Signature   *Printed Name*   *Date*

Enrollment in the above independent study is consistent with the degree objectives of this student and is
☐ on   ☐ not on   his/her plan of study. This student will not exceed six (6) credit hours of XXX 59000 on his/her plan of study
                                      with this enrollment.

_____   _____   _____
Major Advisor's Signature   *Printed Name*   *Date*

Approved

_____   _____
Department Head Signature   *Date*

INDEPENDENT STUDY REQUEST INSTRUCTIONS
College of Technology
Purdue University

REQUEST FOR PERMISSION TO ENROLL IN AN INDEPENDENT STUDY COURSE

<u>Procedures</u>

1. Meet with your professor to discuss your proposed study and secure his/her approval for the project you envision.

2. Incorporating your professor's input, prepare a detailed project prospectus (typed or word processed, use APA format, title page), including the following indicated sections.

   a. Problem: Define the rationale and delimit your problem area (explain your interest in pursuing the project, why this area is of concern to you). How does this project relate to your degree objectives?

   b. Purpose and Objectives: What do you hope to accomplish? Provide a physical numbered listing of all objectives you expect to accomplish.

   c. Procedures: Explain the methods you expect to use and any unusual requirements for materials, equipment, or facilities. A graphical time line and two progress reports from the student must be submitted by the student to the professor in charge between weeks three and ten of the semester. Specifically, indicate key deadline dates for each progress report and deliverable. Provide a narrative, flow chart, or outline of step-by-step procedures used to complete this study. If applicable, provide a supply and material cost worksheet.

   d. Outcomes: What will be the tangible results (deliverables, i.e. software source code, papers, reports, products, or summaries) of your study? Who will receive copies (office, professor, co-working professor, and student)? Will you conduct a formal presentation of your results?

3. Meet with your professor in charge to discuss and refine your project prospectus.

4. Revise the prospectus as necessary. Complete the **INDEPENDENT STUDY AUTHORIZATION FORM** (reverse side of this page); attach it to the front of the prospectus; and secure the signatures of your academic advisor <u>and</u> the professor in charge of the independent study course you will be taking.

5. Submit the signed copy of your request to the Graduate Office, Room 150 KNOY. The prospectus must be accompanied by a completed course request (Form 23). A copy of your project -prospectus must be given to the professor in charge. <u>DO NOT submit the Form 23 at the Graduate Office prior to securing the department head's approval for the prospectus.</u> Approval criteria include: 1) total numbers of independent study courses on Plan of Study; and 2) Focus on a College of Technology discipline.

6. The Graduate Secretary will make and distribute copies to appropriate persons and file the original in the departmental office. Make sure to keep a copy for yourself.

<u>Regulations and Restrictions in the Use of Independent Study Courses</u>

1. Independent study may be included in a graduate plan of study only when enrollment is scheduled <u>after </u>the plan of study has been approved. Check with your advisor for other restrictions which may apply to you. Typically, such courses cannot be added to your schedule after the third week of classes.

2. You must submit a copy of your final outcomes (using APA format) for the study to the department head for departmental files, and a copy to the professor in charge before the beginning of finals week. Failure to do so can result in an incomplete or a failing grade.

3. All work submitted must be independent of other course work (previous, existing, or future).

http://www.tech.purdue.edu/graduate/docsandforms/index.html   REV. 07/06

APPENDIX K:

EXAMPLE FORM 23

OFFICE OF THE REGISTRAR
FORM 23 (10/2008)

SCHEDULE REVISION REQUEST

PURDUE UNIVERSITY

1. PUID 001a345628   2. NAME Smith _____ Bill _____
                                        LAST   FIRST   MIDDLE

3. TERM Fall 2009 4. COLLEGE Tech ____ 5. MAJOR GR ____ 6. CLASSIFICATION _____
                (ex. Fall 2008)

7. CANDIDATE _____ YES _____ NO   8. REGISTRATION FOR ☐ EXAM ONLY ☐ DEGREE ONLY

DROP/ADD/MODIFY REQUEST

	A-Add D-Drop M-Modify	CRN	Subject	Course No.	Var. Credit	W/ WF	P/ NP	Instructor/Department Head Signature	Date
1	A	32680	CGT	58100	3				
2	A	36810	Tech	69800	3				
3									
4									
5									
6									
7									
8									
9									
10									

VARIABLE TITLE COURSES

	CRN	Subject	Course No.	Credit	P/NP	Course Title (Limit: 30 Characters)
1	12469	CNIT	59000	3		Surviving Grad School
2						

OVERRIDE REQUEST

	Override Code*	CRN	Subject	Course No.	Instructor/Department Head Signature	Date
1	INST PERMT	36810	Tech	699	a Dulhie Huley	
2						
3						
4						

*OVERRIDE CODES		COMMENTS	AUTHORIZATIONS
CLASS	Classification Override		
CLOSED	Closed Section Override		
CO-REQ	Co-req Override		
COLLEGE	College Restriction Override		
DEGREE	Degree Override		
DPT-PERMIT	Department Permission		
DUP-CRSE	Duplicate Course		
HONORS	Honors Permission		
INST-PERMT	Instructor Permission		
LEVEL	UG or GR Level Override		
MAJOR	Major Restriction Override		
PRE-REQ	Pre-req Override		
PROGRAM	Program Override		
REPEAT	Repeat Limit Override		
TIME-CNFLT	Time Conflict Override		

AUTHORIZATIONS

Bill Smith
SIGNATURE OF STUDENT   DATE

Gary Bertoline
SIGNATURE OF STUDENT'S ADVISOR OR GRADUATE SCHOOL   DATE

Gary Bertoline
PRINTED/TYPED NAME OF STUDENT'S ADVISOR OR GRADUATE SCHOOL

OFFICE USE

ACADEMIC ADVISING OFFICE

APPENDIX L:

COT FORM 2: ACCEPTANCE OF GRADUATE PROPOSAL
(available at http://www.tech.purdue.edu/Graduate/forms_documents.cfm)

College of Technology
Graduate Studies

Acceptance of Graduate Proposal
(To be submitted to Graduate Studies Office Following Proposal Defense Meeting)

Title of Project: _____

_____

_____

Proposal Defense Date: _____   Project Type: ☐ Directed Project
☐ Thesis
☐ Dissertation

_____   _____
Chair   Date (month/day/year)

_____   _____
Member   Date (month/day/year)

_____   _____
Member   Date (month/day/year)

_____   _____
Member   Date (month/day/year)

_____   _____
Printed Name and Signature of Candidate   Date (month/day/year)

APPENDIX M:

DISSERTATION/THESIS COVER PAGE
(available at http://www.gradschool.purdue.edu/thesis2.cfm)

PLEASE ENTER TITLE HERE

A Select Type

Submitted to the Faculty

of

Purdue University

by

Your Name

In Partial Fulfillment of the

Requirements for the Degree

of

Master of Science

Select Graduation Month Select Graduation Year

Purdue University

West Lafayette, Indiana

APPENDIX N:

FORM 20: RESEARCH INTEGRITY AND COPYRIGHT DISCLAIMER

(more information available at http://www.gradschool.purdue.edu/thesis3.cfm)

NOTE: This form must be completed and turned in by *all* candidates. Please carefully review the following instructions.

G. S. Form 20, "Research Integrity and Copyright Disclaimer"

This form will be completed by both doctoral and master's candidates and included with their electronic and, if applicable, printed documents. The following procedures apply:

- One (1) copy will be strictly *typed*, converted to Adobe pdf, and then attached as the second page of the electronic thesis document (i.e., following your ETD Form 9 and preceding the thesis title page).

- One (1) copy will be printed on 100% cotton paper and signed. We require "cotton paper" due to permanent archival requirements. You will turn in this form at your final deposit appointment. If you are unable to obtain cotton paper through your department, the Thesis/Dissertation can provide it to you at no charge.

- If your department also requires copies of your thesis, you will need to insert additional copies of the *signed* Form 20 in those as well.

Please ensure you do not include this page when inserting the form into your document! When printing as a pdf, select "current page" and this will avoid your need to delete it afterwards.

Please contact the Graduate School Thesis/Dissertation Office, 494-2600 or markj@purdue.edu if you have questions or need assistance with this form.

Graduate School Form 20
(Revised 1/10)

PURDUE UNIVERSITY
GRADUATE SCHOOL

Research Integrity and Copyright Disclaimer

Title of Thesis/Dissertation:

For the degree of _____

I certify that in the preparation of this thesis, I have observed the provisions of *Purdue University Teaching, Research, and Outreach Policy on Research Misconduct (VIII.3.1)*, October 1, 2008.*

Further, I certify that this work is free of plagiarism and all materials appearing in this thesis/dissertation have been properly quoted and attributed.

I certify that all copyrighted material incorporated into this thesis/dissertation is in compliance with the United States' copyright law and that I have received written permission from the copyright owners for my use of their work, which is beyond the scope of the law. I agree to indemnify and save harmless Purdue University from any and all claims that may be asserted or that may arise from any copyright violation.

_____
Printed Name and Signature of Candidate

_____
Date (month/day/year)

*Located at http://www.purdue.edu/policies/pages/teach_res_outreach/viii_3_1.html

APPENDIX O:

CHECK YOURSELF REQUEST FORM

Check Yourself Request Form

To submit a document for screening, send it as an email attachment to your department screening administrator.
Complete the form below and copy it into the body of the email.

A. Name:

_____

B. PUID:

_____

C. Department and name of degree program:

_____

D. Campus location: West Lafayette, IUPUI, Fort Wayne, North Central, Calumet

_____

E. Is the submitted document
1) a thesis that has not yet been submitted to the thesis committee
(if so, provide anticipated title)

_____

2) an unpublished journal article (if so, provide anticipated title)

_____

3) an unpublished conference paper (if so, provide anticipated title)

_____

4) an unpublished manuscript, such as a book or monograph
(if so, provide anticipated title)

_____

5) a preliminary exam report (if so, provide anticipated title)

_____

6) other, such as clinical report, directed study report, etc. (if so, specify)

_____

F. If the submission is a co-authored document (e.g. a journal paper, conference paper,
manuscript), list all co-authors.

_____
All co-authors are to be copied by email upon submission. Each will receive a copy of the
similarity report.

APPENDIX P:

GS FORM 7: REPORT OF MASTER'S EXAMINING COMMITTEE
(more information available at http://www.tech.purdue.edu/Graduate/grad_downloads/Form8.doc)

Graduate School Form 7
(Revised 11/07)

PURDUE UNIVERSITY
GRADUATE SCHOOL
Report of Master's Examining Committee

Name of Candidate _____ PUID No. _____

Department _____ Department Code _____

Date Examination Held _____

Degree Sought:
☐ Master of Arts
☐ Master of Science
☐ Master of_____

Basis of Recommendation:
☐ Oral examination of the candidate
☐ Written examination
☐ Conference of the committee in the absence of the candidate

Degree Recommendation:
☐ Recommend that the candidate be certified to the faculty for the above degree*
☐ Do **NOT** recommend that the candidate be certified to the faculty for the above degree

Thesis Award (if applicable):
☐ Do consider nominating this student for an outstanding thesis award
☐ Do **NOT** consider nominating this student for an outstanding thesis award

Examination

Approve	Disapprove	**Examining Committee:**	**Graduate Faculty Identifier**
☐	☐	_____, Chair	__ __ __ __ __
☐	☐	_____	__ __ __ __ __
☐	☐	_____	__ __ __ __ __
☐	☐	_____	__ __ __ __ __
☐	☐	_____	__ __ __ __ __

Recorded by: _____ _____
Head of the Graduate Program   Date

This report should be forwarded to the Graduate School as soon as the examination is completed.

*Committee certification for a master's degree requires that all members of a three-person committee concur that the student has satisfactorily completed the examination. If the committee has four or more members, a single member may withhold his or her signature of approval.

APPENDIX Q:

GS FORM 9: THESIS ACCEPTANCE

(more information available at http://www.gradschool.purdue.edu/thesis3.cfm)

NOTE: This form *must* be completed and turned in by *all* master's and Ph.D. candidates at their final thesis deposit appointment. Please do not confuse this form with the ETD Form 9, linked elsewhere on this website, which is solely used by *Ph.D.'s* when submitting Electronic Thesis Deposits.

Please carefully read the following instructions and ensure you have properly completed this form and have obtained all required signatures and dates. Failure to do so will cause needless delays in your processing.

G. S. Form 9, "Thesis Acceptance"

The "original" copy of this form *must* be printed on 100% cotton, non-acidic paper *prior* to having it signed by your committee members, major professor, et.al. This is due to the following:

- Ph.D. candidates submitting via Electronic Thesis Deposit must still turn in their *original, signed* "Thesis Acceptance" form at their final deposit appointment. This copy of the form will be permanently maintained on file at the Graduate School. Accordingly, the Graduate School needs an "archival quality" copy of your thesis acceptance form to ensure it remains in good condition, since wood-pulp ("acidic") paper deteriorates and fades with age.

- Ph.D. candidates who prefer to submit their dissertations in traditional "hard copy" form will also need to ensure an original completed and signed copy, printed on 100% cotton paper, is bound into the "deposit copy" they furnish at their final deposit appointment. However, please note that hard copy submissions will no longer be accepted once mandatory Electronic Thesis Deposit for doctoral candidates commences effective 23 August 2007.

- All other copies of your Thesis Acceptance form may be printed on regular copier paper, unless departmental requirements dictate otherwise.

- Candidates unable to immediately obtain 100% cotton paper from their department or workplace may contact the Thesis/Dissertation Office and it will be furnished to them at no charge.

Questions? Please contact the Thesis/Dissertation Office at 6-3157 or at markj@purdue.edu

Graduate School Form 9
(Revised 10/07)

PURDUE UNIVERSITY
GRADUATE SCHOOL
Thesis/Dissertation Acceptance

This is to certify that the thesis/dissertation prepared

By _____

Entitled

For the degree of _____

Is approved by the final examining committee:

_____   _____
Chair

_____   _____

_____   _____

_____   _____

Approved by: _____
Head of the Graduate Program   Date

To the best of my knowledge and as understood by the student in the *Research Integrity and Copyright Disclaimer (Graduate School Form 20),* this thesis/dissertation adheres to the provisions of Purdue University's "Policy on Integrity in Research" and the use of copyrighted material.

_____
Major Professor

☐ is
This thesis ☐ is not to be regarded as confidential.   _____
Major Professor

Format Approved by:

_____ or _____
Chair, Final Examining Committee   Department Thesis Format Advisor

APPENDIX R:

GS FORM 14: ADDENDUM TO THE PROQUEST DOCTORAL DISSERTATION AGREEMENT FORM

(more information available at http://www.gradschool.purdue.edu/thesis3.cfm)

Graduate School Form 14
(12/03)

PURDUE UNIVERSITY
GRADUATE SCHOOL
Addendum to the
ProQuest Doctoral Dissertation Agreement Form

Author Your complete name   Student ID No. Purdue ID number

Thesis Title Your complete title

Major Professor Your major professor   Department Your department

The Graduate School has approved that authors may request either a sales and/or format restriction. While the use of sales or format restrictions are not recommended by the Graduate School, there are cases where exercising a restriction may be prudent. Careful consideration should be given before deciding. Examples:

1. The dissertation will be edited for publication as a monograph and the publisher considers that the availability of an electronic version of the dissertation constitutes publication, thus, preventing the author an opportunity to publish in traditional sources. In this case, a "format restriction," which stops accessibility to the electronic version for a specified period of time (e.g., to December 2005) may be advisable.

2. Papers will be prepared for publication and the publisher will not accept information considered previously published in a widely accessible electronic form. In this case, also a "format restriction" (e.g., to December 2005) may be advisable.

3. The dissertation contains patentable research. A "sales restriction" (e.g., to December 2005) may be advisable.

It is important to keep in mind that exercising a restriction will prevent copies of your dissertation from being made available to others outside of the University who wish to read about your research in a timely fashion. If you are considering exercising restrictions, you are advised to discuss the matter with your major professor. If a restriction is selected, this form must be signed by your major professor or adviser to indicate that he or she has been consulted and agrees with your decision.

RESTRICTIONS

SALES
☐ No sales restrictions
☒ Restrict sales until December 2009 (insert year) **MAXIMUM OF 5 YEARS**
(During the period of restricted sales, only the abstract is available to readers.)

FORMAT
☐ No format restrictions
☒ Restrict publication in electronic form until December 2009 (insert year) **MAXIMUM OF 5 YEARS**
(NOTE: Publication will occur in paper and microform format. The option to limit paper or microfilm format has not been approved by the Graduate School.)

_____   _____
Signature of Author   Date

_____   _____
Signature of Major Professor/Adviser   Date
(LAST SIGNATURE IS NECESSARY ONLY IF A RESTRICTION IS SELECTED.)

APPENDIX S:

GS ETD FORM 9: ELECTRONIC THESIS DEPOSIT

(more information available at http://www.gradschool.purdue.edu/thesis3.cfm)

ETD Form 9, "Thesis Acceptance"

- Ph.D. candidates submitting via Electronic Thesis Deposit must ensure a completed ETD Form 9 is attached to the front of their Adobe pdf document. This form will be typed (not signed) and takes the place of the *original, signed* "Thesis Acceptance" form, which will instead be turned in at your final thesis deposit appointment. The reason this form is typed is to preclude potential fraud resulting from unauthorized availability and use of signatures on the Web.

- Prior to attaching this form to the front of their thesis document, candidates must ensure they first complete and save it on a computer loaded with Adobe Professional, Adobe Standard, or similar pdf conversion/merging software (e.g., PrimoPDF). Doing this ensures their document will be "stabilized," *so it cannot be edited after the fact.* Proper stabilization *cannot* be performed on machines loaded only with Adobe Reader.

- Here is a common method for saving, stabilizing, and inserting a document in Adobe pdf:

  1. After typing in the appropriate information, go to the top and select File>Print.

  2 You will then see a Print dialog box: go to the printer drop-down menu in the upper left-hand corner and then select the "ADOBE PDF" option.

  3. A "Save As" dialog box should then appear: type in your desired file name, as well as *where* you want to save the file, then click "OK." We suggest you select "Current Page" so you will only save the page you actually need.

  4. Your file should then immediately convert to a stabilized Adobe pdf document.

  Once this is accomplished, assuming you have already converted the rest of your thesis document to Adobe pdf, you can then "drop in" your ETD Form 9 as follows:

1. At the top, select Document>Insert Pages.

2. You will then see a "Select File to Insert" dialog box requesting the name of the file you wish to insert. Select the file name for your ETD Form 9 and then click "Select."

3. An "Insert Pages" dialog box will then appear. Select your location as "Before" and your page as "First" and then click "OK." This will insert your stabilized ETD Form 9 into the front of your Adobe pdf document.

- Candidates *may* also be able to simply insert the ETD Form 9 into the front of their MS Word documents, and *then* run everything through the online Adobe pdf converter available at the Purdue ETD website.

- There are undoubtedly several ways to accomplish the above actions, so we encourage feedback from candidates and staff regarding different procedures that work well for them.

- All "hard" copies of your ETD Form 9, intended for your departmental library, committee members, etc. may be printed on regular copier paper, unless departmental requirements dictate otherwise. **Please insert copies of your *original, signed Form 9*: do not use the ETD Form 9 in your departmental copies.**

Questions? Please contact the Thesis/Dissertation Office at 6-3157 or at markj@purdue.edu

PLEASE EITHER USE THE "CURRENT PAGE" PRINT OPTION OR REMOVE THE INSTRUCTION PAGES BEFORE INSERTING THE ETD FORM 9 INTO THE FRONT OF YOUR DOCUMENT!

Graduate School ETD Form 9
(Revised 12/07)

PURDUE UNIVERSITY
GRADUATE SCHOOL
Thesis/Dissertation Acceptance

This is to certify that the thesis/dissertation prepared

By _____

Entitled

For the degree of _____

Is approved by the final examining committee:

_____
Chair

_____

_____

_____

_____

_____

_____

To the best of my knowledge and as understood by the student in the *Research Integrity and Copyright Disclaimer (Graduate School Form 20)*, this thesis/dissertation adheres to the provisions of Purdue University's "Policy on Integrity in Research" and the use of copyrighted material.

Approved by Major Professor(s): _____

_____

Approved by: _____
                    Head of the Graduate Program   Date

APPENDIX T:

GS FORM 15: REQUEST FOR CONFIDENTIALITY
(more information available at http://www.gradschool.purdue.edu/thesis3.cfm)

Graduate School Form 15
(Revised 11/02)

PURDUE UNIVERSITY
GRADUATE SCHOOL
Request for Confidentiality of Thesis

Date _____

Thesis Title _____

Official Degree Title _____ Date Degree Expected _____

Author _____ Student ID No. _____

Major Professor _____ Graduate Faculty Identifier _____

Department _____ Department Code _____

REASON FOR CONFIDENTIALITY (Please check applicable items.)

☐ There may be patents resulting from research.
☐ Publication of the thesis or portions thereof is pending.
☐ Proprietary rights are involved.
☐ Other (Please specify.) _____

INITIAL REQUEST

☐ **One Year Period**. (An initial request is normally for one year. However, in cases where the sponsoring organization has a contractual arrangement, which expressly stipulates a longer time period, with Purdue University and/or Purdue Research Foundation, a two-year initial period of confidentiality may be requested.)

☐ **Two Year Period**. (The name of the sponsoring organization and the contract number must be indicated below before this form is submitted to the Graduate School.)

Sponsoring Organization _____

_____   _____
Contract Number   Verification by Sponsored Program Services

EXTENSION REQUEST (Six Month Period)

Reason for Extension _____

_____

The Thesis/Dissertation Office will retain both the deposit copy of the thesis and the copy for the head of the graduate program and will not permit access to these copies during the period of confidentiality without authorization in writing by the author, the major professor, or the head of the graduate program and the endorsement of the dean of the Graduate School. **At the end of the approved period of confidentiality, the thesis will be removed automatically from such status unless a request for extension is approved by the Graduate Council.** Earlier removal from confidentiality may be authorized in the same manner as access during confidentiality.

SIGNATURES:

_____ _____ _____
Author   Major Professor   Head of the Graduate Program

Submit this form to the Graduate School.

(For Graduate School Use)

Confidentiality has been approved
through _____   _____
(Month, day, year)   Graduate School Dean

Distribution: Thesis/Dissertation Office, Author, Major Professor, Head of the Graduate Program, Sponsored Program Services, Office of Technology Commercialization, Graduate School