COLLEGE OF TECHNOLOGY

STUDENT HANDBOOK

Ph.D. in Technology Program

2014

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Preface

The interdisciplinary PhD program in technology at Eastern Michigan University prepares students to become leaders in a global environment where technology is exponentially growing across a broad spectrum of disciplines. Grounded by a solid foundation of research methods and core courses, students work together with an adviser to customize a program to their unique interests. The many diverse graduate programs housed within the College of Technology (COT) give students a great deal of flexibility when designing a program of study. A program Flow Chart can be found in Appendix A.

COT courses are designed based on the following perspectives:

- How science, phenomena and society interact to shape technology applications;
- How technology applications are managed, deployed and assessed in society;
- How technical, organizational and human dimensions influence technology applications;
- How technological practices, ethics, and literacy impact each other;

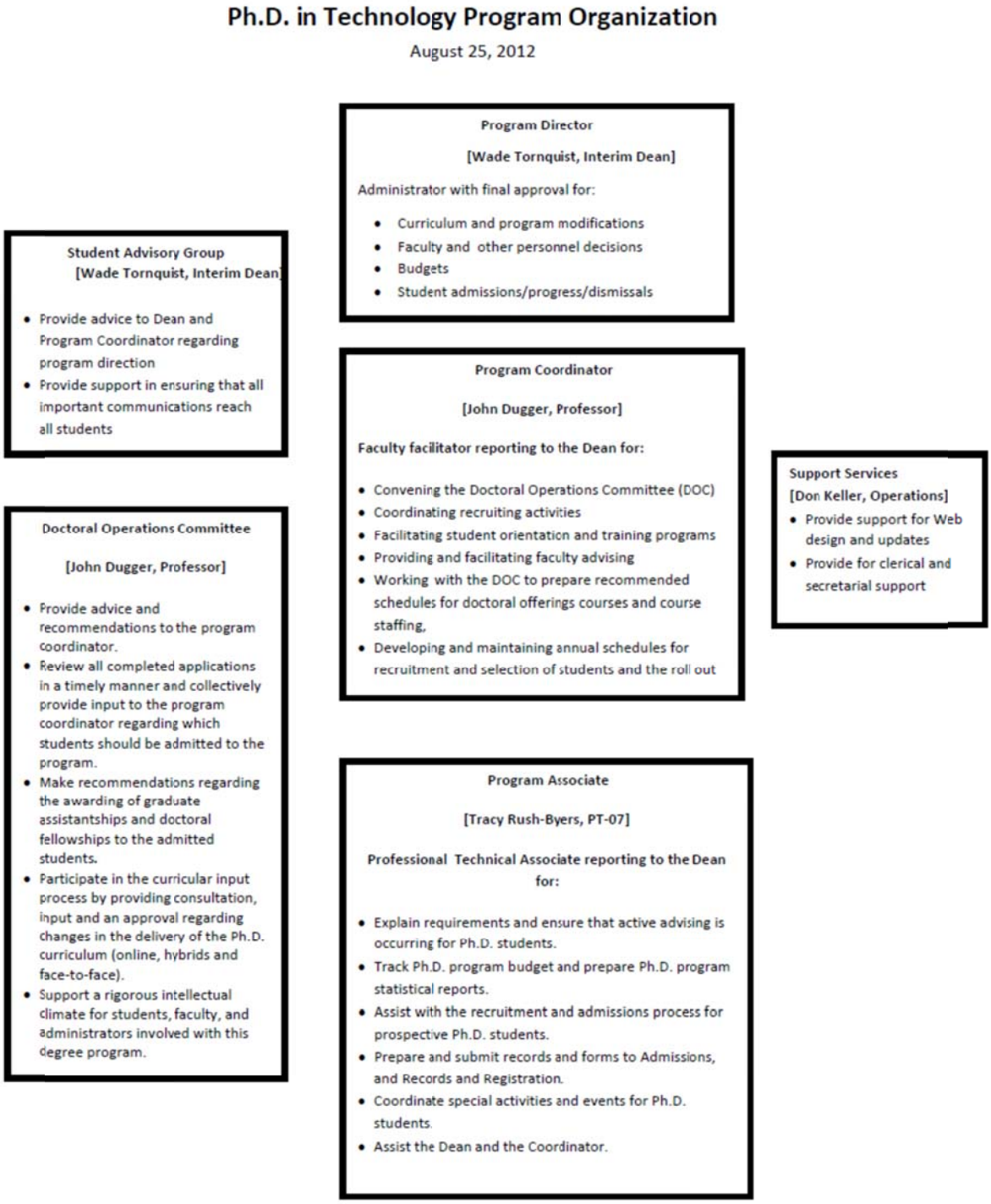
The program prepares graduates for positions of increased responsibility in settings such as faculty in higher education, high-level management positions in government and industry, and policy analysis and research careers.

Classes are primarily offered on-campus. Many students have professional experience in business, industry, education or the military and thus bring high expectations and standards into every class. Working students may enroll part-time. Concentrations include:

- Construction Management
- Engineering Management
- Geographic Information Systems
- Information Assurance
- Interior Design
- Polymers and Coatings
- Quality Management
- Technology and Education

- Technology and Society
- Technology Management
- Textiles

The program is administered by the Dean of the College of Technology and facilitated by the PhD Program Coordinator. The following figure provides the general responsibilities of the various positions that are associated with the program.



The student handbook for the Eastern Michigan University PhD in Technology program is a companion to other university documents, including the current *Graduate School Catalog* which is available at the following URL: http://catalog.emich.edu/index.php?catoid=15

Program Overview

Mission Statement

The PhD in Technology program focuses on the development of leaders with knowledge, skills, and expertise for expanding and making original contributions to the interdisciplinary study of technology, applied technology and its impact on all aspects of life.

Academic Advising

Upon admission to the program, each student is assigned an academic adviser. The academic adviser will guide and assist the student in selecting courses and scheduling classes by completing Part (a) of the Program of Study (POS). The academic adviser will mentor the student to find a dissertation chair for the research topic that student would like to pursue. The academic adviser and dissertation chair may or may not be the same person.

After a dissertation chair is identified, the responsibility for academic advising will transfer to the dissertation chair and Part (b) of Program of Study (POS) which consists of the selection of concentration and cognate courses will be completed. The dissertation chair may examine the prior work completed beyond Master degree of a student to determine applicability and the possibility of transfer of credits and will provide support to the student throughout completion of the program.

In selecting a dissertation chair, students should choose a faculty member who shares their research interests and who will provide support and guidance through the entire research process. The dissertation chair must have completed a PhD or EdD degree.

Students should be prepared to identify a sequence of courses that support their professional goals. The courses selected on the POS can be changed at any time, with the approval of the dissertation chair, if other topics or ideas become available that support the student's research agenda. Some programs of study may include additional hours to provide learning opportunities at the discretion of the dissertation chair. Some programs of study incorporate courses from

departments across the university.

Program Structure

The PhD in Technology curriculum consists of a minimum of 60 semester hours of coursework beyond the Master's degree. The exact number of hours will be determined by the student and their dissertation chair based on a review of previous graduate transcripts, the student's professional and personal aspirations, and the PhD degree requirements.

The typical program of study begins with core and research skills courses. Most new students register for COT 700 and/or COT 709 during their first semester.

Core Courses (9 credit hours)

There are three core courses that provide foundation of knowledge for the student. These courses are:

COT 700 - Introduction to the Interdisciplinary Study of Technology (3)
This course serves as an introduction to the interdisciplinary study of technology by acquainting students with science, technology and society studies, and with technology philosophies and theoretical paradigms such as social constructivism, scientific rationalism, technological determinism, appropriate technology, technology ethics, and socio-technical systems theory. Students will apply these theoretical and analytical concepts to the study of technological systems.

COT 704 - Legal and Policy Aspects of New Technologies (3)
This course examines the legal and policy issues raised by new technologies, nationally and globally. These issues include, but are not limited to, information privacy, biotechnology, technology transfer, executive responsibility, intellectual property, software protection, and national and international technology policy development processes. The course utilizes a seminar format, which includes case study analysis and examination of information on the World Wide Web.

COT 705 - Technology Design, Development and Transfer (3)
This course examines the processes involved in designing and bringing new products to market, and the engineering, cultural, political and business factors that influence those processes. Special attention is paid to the concepts of human-centered and gendered design, the structure and functioning of product development teams, and the philosophy of concurrent engineering. Also covered in this course is the role that governments and agencies play in supporting technology transfer from research laboratory to marketplace, and from country to country.

Research Skills Courses (12 credit hours)

There are four research design and methodology courses that provide advanced skills to prepare and complete the dissertation. They form the body of knowledge that will be tested on the candidacy examination. It is expected that incoming students will have a basic level of statistical competence. The research design and methodology courses are:

COT 709 - Introduction to Statistical Reasoning in Technology (3)
This course will introduce the basic concepts, logic and operations related to statistical reasoning. Topics explored within this class include computing descriptive statistics, probability and statistical inference, hypotheses testing, one-way and two-way analysis of variance, nonparametric testing and linear regression and correlations. The course will also describe how to use the Statistical Package for the Social Science (SPSS) for analyzing data.

COT 710 – Research Methods in Technology (3)
An application of introductory research methods in technology. Emphasis is on the identification of a technology dissertation topic and committee. Topics include: focusing of research efforts, use of search tools, formulating research questions, identifying alternative qualitative and quantitative methods and planning the research project.
Prerequisites: COT 709 and department permission

COT 711 - Advanced Research Design and Applied Statistics in Technology (3)
This course is an application of experimental research design and parametric statistics to scholarly inquiry in technology. Emphasis is on the relationships between true and quasi-experimental research designs, methods and associated statistics. Includes multi-variate statistical procedures, such as factor analysis. Students will learn how to transpose qualitative data into quantitative data as well as learning how to utilize various computer programs within qualitative and quantitative research. Utilizes SPSS software.
Prerequisite: *COT 710 or departmental permission*

COT 795 – Research and Design Capstone Seminar (3)
Students will refine possible dissertation research topics by critically analyzing how the study of technology is approached in the research literature. By exploring the nature of inquiry in technology, students will be able to identify the conceptual framework for a dissertation, write a research problem statement, and design and defend their research proposals.
Prerequisite: *COT 711*

Concentration Courses (15 credit hours)

The students in consultation with their dissertation chair will identify and select at least fifteen hours of concentration courses to support their area of research interest. These courses may be within the College of Technology or may be in other colleges as deemed appropriate by the students and their dissertation chair.

Cognate Courses (6 credit hours)

The students take six credit hours cognate courses that contribute to their intellectual and professional development from outside their concentration area or outside the College of Technology with the approval of their dissertation chair to further augment their interdisciplinary skills in their area of interest. The cognate courses may be taken in one or a combination of departments that offer graduate courses. Students are encouraged to consider faculty from their cognate area(s) when selecting the external member of their dissertation committee. Cognate courses are selected and completed only after a research focus or problem has been identified.

PhD Electives (3 credit hours)

The students must complete one elective course from a list of elective courses (see below) that are offered by the PhD program. Currently, the following courses are offered:

COT 701 – Technology Trends and Issues (3)
This course examines the processes involved in designing and bringing new products to market, and the engineering, cultural, political and business factors that influence those processes. Special attention is paid to the concepts of human-centered and gendered design, the structure and functioning of product development teams, and the philosophy of concurrent engineering. Also covered in this course is the role that governments and agencies play in supporting technology transfer from research laboratory to marketplace, and from country to country.

COT 715 – Implementing and Managing Technological Change (3)
This course covers the concepts of technology management as a field of study, the rationale for technology introduction, the value of partnership approaches to technology introduction and implementation, the role of organizational culture in contributing to technology success or failure, and the importance of training and competency building. Students will study best-practice scenarios, apply the principles learned to case studies, and critically analyze technological change practices at their own workplaces or an organization of their choosing.

Dissertation Research Courses (15 credit hours)

The dissertation research courses may be taken once the Research and Design Capstone Seminar (COT 795) has been successfully completed and once all other required courses have been completed. Doctoral students will enroll for these courses while preparing their dissertation proposal, completing their proposal defense, collecting and analyzing data, along

with completing and defending the dissertation.

COT 894 – Candidacy Seminar (2 credits)
The candidacy qualifying examination seminar is for eligibility to form a dissertation committee and begin work on the dissertation research proposal. The student will write three research paper prospecti on possible dissertation research topics and present them to their candidacy examination committee. The three perspecti must consist of a qualitative research design perspectus, a descriptive research design perspectus, and an experimental research design perspectus.
Prerequisites: *COT 795*

Once the Candidacy Seminar (COT 894) has been successfully completed, the student may enroll in the dissertation research courses (COT 896-899). Doctoral students will enroll in these courses while preparing their dissertation proposal, completing their proposal defense, collecting and analyzing data, along with completing and defending the dissertation.

COT 896 – Dissertation Research (1credit)

COT 897—Dissertation Research (2 credits)

COT 898 – Dissertation Research (4 credits)

COT 899 – Dissertation Research (8 credits)

The Candidacy Examination

The doctoral student must complete the research skills sequence and typically complete a good portion of core courses before taking the candidacy examination. After the exam, the student's coursework focus will shift to consist primarily on concentration and cognate courses.

The student must complete a candidacy examination prior to begin working on their dissertation research proposal. To be eligible for the examination, the student must have completed the following four research courses: COT 710, COT 711, COT 712 and COT 795. The COT 795 class has been designed specifically to prepare students for their candidacy examination- COT 894.

Once a student has passed COT 795, they may register for candidacy seminar course – COT

894 with the approval of their dissertation chair. The student may ask their academic adviser to serve as their dissertation chair, or they may ask another faculty member to fill that role.

The purpose of candidacy examination is to determine the student's ability to:

- Identify research problems in applied technology and apply a range of different research methods that could be used to collect and analyze data and/or information to resolve those problems;
- Find, analyze, integrate, synthesize, and evaluate literature related to the research problem(s);
- Document research plans clearly and formally in writing using EMU PhD dissertation format and APA style requirements;
- Coherently present and defend his/her research plans in a formal academic setting that is fundamentally based on a format similar to the dissertation proposal and final dissertation defense environment.

During the candidacy examination, the student is required to write and present three different types of prospecti reflecting the three different research methodologies (qualitative, descriptive, and experimental). A prospectus assessment rubric should be used to help assess the performance of the student seeking candidacy status.

Each prospectus report may be on the same topic or different topics, but must follow the template provided in Appendix B and found on the PhD web page.

Forming the Candidacy Examination Committee

The candidacy examination committee is formed by the student with guidance from the PhD Program Coordinator. All members of the Candidacy Examination Committee must be members of the COT or GIS faculty. The committee should consist of the following members:

- Student dissertation chair (committee chair)
- One research methods (teaches or has taught COT 709, 710, 711, 795) or a faculty member who has chaired a dissertation to completion
- On additional College of Technology or GIS faculty member

Scheduling the Candidacy Exam

After the student's three written research prospecti have been reviewed and approved by their dissertation chair, the student will distribute copies to the rest of their candidacy examination committee members no later than10 working days prior to the scheduled candidacy examination meeting. Scheduling a room for this meeting is the responsibility of the student with the help of the PhD program associate in 109 Sill Hall. At the meeting, the student will present a 10-minute PowerPoint presentation on each prospectus. The remainder of the exam meeting will consist of questions from the committee to determine if the student's ideas are viable, and to ensure that the student understands basic research techniques to initiate doctoral level research.

At the end of the candidacy examination, the student will be asked to leave the room so the committee may discuss the outcome and make a recommendation. The committee may recommend that the student:

- Pass and be recommended for candidacy and proceed to writing a fully developed dissertation proposal;
- Retake the examination (either partially or totally) after a remediation plan has been developed and implemented;
- Withdraw from the PhD program.

The chair of the candidacy exam committee submits the Candidacy Qualifying Examination Committee Report to the PhD Program Coordinator and communicates the committee decision.

Students who fail the exam may be dismissed from the program. Students who fail may appeal the decision in writing to the Coordinator of the PhD Program within 30 days of the failure of the examination. Once an appeal has been received, the Coordinator will forward the appeal to a standing review committee to review the appeal. If the recommendation of the committee is to provide a second opportunity for examination, the second exam may not take place until at least three months have elapsed, but must occur within one calendar year. The results of the second examination will be final.

If a student is dismissed from the PhD program, the student may investigate the option of being

admitted and graduating from a master's degree program in the COT using a portion of the completed PhD course credits.

Selecting the Dissertation Committee

In selecting a chairperson, the student should choose a faculty member who shares their research interests and who will provide support and guidance through the entire research process. The dissertation Chair must have a Ph.D. or Ed.D. degree.

After achieving candidacy status, if they have not already done so, the student must form their dissertation committee. The dissertation committee with four members or more will be selected by the student with input from their dissertation chair.

The committee must consist be comprised of at least three members from the College of Technology, and an additional representative from Eastern Michigan University, but outside the College. Additional committee member(s) from outside the university may be included if agreed upon by the student and the committee chair. Each member must be a full-time faculty member with a doctorate degree. Committee members may be selected to represent areas of expertise related to the student's research topic or to provide guidance with research methodology. After the composition of the dissertation committee is determined, the Dissertation Committee Approval Form is to be submitted by the chair to the PhD Program Coordinator who will submit it to the Graduate School. This form can be found under the Resources tab of the Ph.D. in Technology Program web site.

http://www.emich.edu/cot/phd/forms/Dissertation%20committee%20approval.docx

Dissertation Proposal and Defense

After achieving candidacy status, the student may register for COT 896-899 under the supervision of their dissertation chair and will develop a written dissertation proposal to be presented to their dissertation committee. The proposal will normally consist of the first three complete chapters of the dissertation and includes:

- Cover page
- Preliminary pages

- Introduction (Overview) (Chapter 1)
- Review of the Literature (Chapter 2)
- Research Methodology (Chapter 3)
- References and/or appendices

For more detail, see the EMU PhD Dissertation Manual at:

http://www.emich.edu/graduate/students/doctoral/forms/2012falldissertationmanual.pdf

Some students may complete their research using the facilities at Eastern Michigan University, while others may choose to perform their PhD research off campus. Permission to complete the research portion of the program (both on and off campus) must be approved by the student's dissertation committee and the PhD Program Coordinator.

Dissertation Proposal Defense

Although not required, it may be useful for the student and the committee to conduct a pre-proposal meeting where the student presents an enhanced prospectus of the proposal idea. When the student and dissertation chair agree that the proposal is ready to be presented to the committee, the student must give the committee a minimum of two weeks to read the final copy prior to the oral defense meeting. Once the student works with the PhD Program Associate to set up the meeting, one-page summary of the proposal must be submitted to the Program Associate who will make arrangements for an announcement of the proposal defense.

During the proposal defense, the student will present the proposal to the committee using relevant handouts, visual aids and PowerPoint slides. At the end of the presentation, the committee will ask questions of the student to either clarify the research problem, the literature or the methodology, ensure that the student has a thorough understanding of the background of the research, and a good plan for conducting the research.

At the end of the meeting, the committee will ask the audience and student to leave so that they may deliberate on the results of the defense. They may recommend that the student:

- Pass with minimal corrections;
- Pass with major corrections;

- Not pass with a new topic to be considered, or requiring that the defense be repeated.

When final approval of the proposal has been granted, all committee members will sign and date:

1. The approval page of the proposal;

The student should bring two copies of a modified approval page to be signed by the committee at this time, using the form found in the Dissertation Manual Fall 2012 as a guide.

2. Approval of Dissertation Proposal Form.

The chair of the dissertation committee should bring two copies of the defense the "*Approval of Dissertation Proposal Form*" for the committee members to sign. The chair will then submit the signed form to the PhD Program Coordinator for processing. A copy of the form will be kept in the student file and a copy will be sent to the Graduate School.

Human Subjects Approval

Once the proposal has been approved and human subjects are to be used the human subjects review process must be initiated. Students must follow the human subject's policies and procedures. The required forms for the human subjects review process and approval are available at:

http://ord.emich.edu/compliance/compliance_subdir/human.html

These forms must be approved before students start their study but after their committee has approved their proposal. Also note that if a student project requires children to be included in their study, parental/guardian permission is required. The detail information can be obtained at: http://ord.emich.edu/compliance/compliance_subdir/human.html

Completing the Research and the Dissertation Defense

After passing the PhD dissertation proposal defense, the student should register for his/her remaining five (5) dissertation research credits (COT 896, 897, and 898 in any combination) under supervision of their dissertation chair. During this time, the student will complete their research project using the expertise of the committee members as appropriate.

When the dissertation chair and the student believe that the dissertation is complete, a final defense meeting will be scheduled. Scheduling the room for this meeting is the responsibility of the student with the help of the PhD program associate. The student must give the committee members a minimum of two weeks to read the final copy of the dissertation prior to the final defense meeting. The date and time of this defense and the title of the dissertation along with one-page summary of the project should be submitted to the PhD Program Associate two weeks in advance so that this event can be announced to others on campus who may want to attend.

The student will give a 20-25 minute PowerPoint presentation to the committee and any guests or students present. In preparation of this presentation, the student should make sure needed audio visual equipment is available in the scheduled room and they should practice their presentation on this equipment in advance of the event. If handouts are to be distributed during this presentation about 30 copies should be prepared. It is recommended that this presentation be rehearsed with a student's dissertation chair in advance to assure its completeness.

After the presentation, the committee will ask questions of the student to either clarify the research or to ensure that the student understands the background, results, and ramifications of the research. At the end of this discussion, the committee will leave to another room so that the committee may deliberate on the results of the defense. During the committee deliberation, the attending guests and the PhD student may continue discussions on the research project.

During deliberation, the dissertation committee will determine if:

- The written dissertation meets PhD standards of quality and rigor, and
- The student has successfully defended the research conducted.

The committee may recommend that the student:

- Pass with minimal corrections;

- Pass with major corrections;
- Not pass. Major revisions to be made to significant portions of the research.

Upon satisfactory completion of the dissertation oral defense by the student and when final dissertation approval has been granted, all committee members will sign and date the approval page of the dissertation and the Oral Defense Dissertation Approval Form. The student is responsible for bringing the approval page to the presentation.

The chair of the dissertation committee will bring the Oral Defense Dissertation Approval Form to be signed by the committee and will submit it to the PhD Program Coordinator for processing. A copy of the form will be kept in the student file and a copy will be sent to the Graduate School.

Deadline dates for submitting dissertations to the Graduate School for review are November 15, March 15, June 15 and July 15th. Thus, oral defense meetings for final dissertation should be scheduled at least one (1) month prior to these dates to allow final corrections to be made and the corrected document be submitted to the Graduate School on time. (See Dissertation Manual for deadline dates).

Students are encouraged to secure the most recent copy of the Graduate School's Dissertation Manual from Graduate School's Web site early during the PhD program. It is wise to study it carefully. It will be listed under "C" Capstone Project Materials (Dissertation and Thesis) and is available online at:
http://www.emich.edu/graduate/students/doctoral/forms/2012falldissertationmanual.pdf

Awarding the PhD Degree

The degree will not be conferred until all requirements of the Graduate School have been met. See the Dissertation Manual for details of how to submit final copies of your dissertation. The Manual includes the Dissertation Information Sheet to be included with the hard copy of the dissertation when submitted to the Graduate School for review.

Once the student makes final corrections noted by the Graduate School editor, the steps in the Dissertation Manual must be followed for submitting electronic and bond copies of the dissertation. A bond copy of the dissertation must be submitted to the PhD Program Coordinator. Also, the student should ask the committee members whether they prefer to have a bond or electronic copy of the dissertation for their file as this is a tradition that should be honored.

The dissertation chair submits the change of grade forms for dissertation courses to the PhD Program Coordinator for authorization to change "IP" grades to "CR". Research classes will not be credited until final approval of the dissertation. Each student must apply for graduation and pay $100 graduation fee as stated in the checklist for the process in the Dissertation Manual. The form to apply for graduation can be found at the very end of the printed course schedule book or at:
http://www.emich.edu/registrar/graduation/apply.php

Commencement/Graduation attendance requires a special EMU cap and gown. They are usually available at the campus bookstore. Details on the graduation requirements are available at:
http://www.emich.edu/graduate/students/doctoral/doc_commencement.php

Low Enrollment Semesters at the End

If you have completed all your course work but still have to complete your dissertation, independent studies or internship, you may need to complete the Doctoral Student Low Enrollment Form found online and the Dissertation Manual. It must be signed by the PhD Program Coordinator.

Continuous Enrollment

All PhD students must be actively enrolled. COT 767 "Continuous Enrollment" is one (1) credit course that is used when a student must continue to stay affiliated with the university. The course may be used more than once and only carry a credit/no-credit grade. It does not influence GPA of students.

FINANCIAL AID

Graduate Assistantships (GA)

Approximately seven GA positions are awarded for one year starting in Fall and ending in Winter semester by the school directors with the assistance of the PhD Program Coordinator. Most often, there are more requests for GA positions than are available.

These positions, once awarded, are assigned to work with either of the two college schools: the School of Engineering Technology or the School of Technology Studies. These positions pay a stipend set by the Graduate School, include 18 credits of tuition scholarship each year (full-time), and require the person to work 20 hours per week for their assigned faculty.

Graduate Assistants are often trained to assist with undergraduate laboratory classes, teach lectures as a team in classes with a faculty or conduct research.
The applicants for a GA position must have a 3.0 GPA. Other details on these positions are available on the Graduate School Web site at:
http://www.emich.edu/graduate/students/ga/
The "Financial Aid" tab on the Graduate School home page can also be resourceful in learning about other forms of financial aid at:
http://www.emich.edu/graduate/admissions/financialassistance/

Doctoral Fellowships

Doctoral fellowships are available to highly qualified, full-time students in the PhD program. The graduate fellowship is an honor of distinction awarded to selected PhD students based on academic merit and performance. Currently only four fellowship positions are available in the PhD program.

Doctoral fellowships are 12-month appointments and provide 27 credits of tuition scholarship each year. Fellows must enroll in and complete at least eight hours of graduate-level course work in each of the Fall and Winter semesters of the award. During the Spring and Summer semesters, they must be enrolled for at least one credit of course work. The applicants must have a minimum of 3.6 GPA and must have successfully completed 12-credit

hours of PhD courses in the college of technology to be considered for a fellowship, and must maintain 3.6 GPA to maintain this award.

Doctoral Fellows may be assigned some of the following duties:
1. Provide research assistance consistent with the student's and dissertation chair's scholarly agenda;
2. Participate in research (sponsored or unsponsored) consistent with the student's and dissertation chair's scholarly agenda;
3. Teach one or more sections of an undergraduate or master's level course in an area in which they are qualified in the College of Technology;
4. Assist in the development and operation of seminars and symposium for the college;
5. Perform tasks and duties normally associated with the honor of a fellowship.

The tuition stipend and related benefits will be in accordance with those currently in effect through the Graduate School for graduate assistants and doctoral fellows.

Transferring Courses to EMU

Courses completed beyond the Master degree and completed at other institutions may be transferred with the approval of the dissertation chair and the PhD Program Coordinator. The maximum credits beyond the Master degree that can be transferred to the PhD program is 12 credits. Credits earned during the first master's degree may not be used for the PhD degree.

The Request for Transfer of Credit form must be submitted by the student with signatures of dissertation chair and PhD Program Coordinator. The form is then sent to the Registrar's office for processing. This form can be obtained at:
http://www.emich.edu/registrar/formslibrary/forms/grtrcred.pdf

Eastern Michigan University and the College of Technology reserve the right to change any statement in this document concerning, but not limited to, rules, policies, tuition, fees, curricula and courses at any time.

RESPONSIBILITIES AND EXPECTATIONS OF PhD STUDENTS

The university and the College of Technology expect students to conduct themselves in a manner consistent with the law along with all relevant university policies and rules, including the University Student Code of Conduct which is found at: http://www.emich.edu/studentconduct/conductcode.php

Non-Academic Behaviors Resulting in University Disciplinary Action

Any behavior by a PhD student that is a violation of the University Student Code of Conduct will be referred to the Student Judicial Services office for campus disciplinary action, in addition to any actions taken by the College of Technology. The conduct code outlines the kinds of student behaviors that will result in disciplinary action, including possible dismissal from the university. Conduct violations by a student off-campus while involved in university related activities (e.g. research field placement) will be handled as if the violation had occurred on-campus.

Academic Behaviors Resulting in Disciplinary Action

The College of Technology will consider performance or behavior of students that provides relevant information as to their likely performance as a working professional. Certain behaviors or performance will be considered grounds for academic discipline, in accordance with the procedures outlined in this document.

Academic disciplinary actions may be initiated when a student exhibits any of the following behavior in one discrete episode that is a violation of the law or when a student exhibits a pattern of recurring behavior that may include, but is not limited to the following:

- Performance or behaviors that demonstrate poor interpersonal skills and an inability to effectively communicate, often with the evidence of repeated complaints from the advisor, other students or departmental faculty;
- Unethical, threatening or unprofessional conduct

- Behaviors that place others at risk during the research experience, including substance abuse; emotional, physical or verbal abuse; vindictive actions toward coworkers, students, faculty or staff, or stealing from co-workers, students, faculty or staff
- Violation of laboratory safety rules as explained by faculty, manager of the lab, or by the University safety officials
- Behavioral displays of mental or emotional difficulties that represent a risk to others
- Consistent inability or unwillingness to carry out academic or research placement responsibilities
- Frequent excuses when tasks, assignments, tests and appointments are not completed in a timely manner or require rescheduling
- Consistent non-attendance in classes, at research placement and other required departmental functions
- Lack of insight into negative consequences of own behavior and frequent blame of others or external factors for failures and difficulties in the academic or research placement environment
- Inability to tolerate other points of view, feedback or supervision
- Dishonest academic practices, including but not limited to: plagiarism, cheating, fabrication, aiding and abetting deception or dishonesty, and the falsification of records or official documents
- Verbal or physical aggressiveness toward others

Academic Behavior Issues

Any concern about a particular student's academic behavior or performance should be brought to the attention of the student's advisor (or the PhD in Technology program coordinator). The advisor or coordinator will then schedule a meeting with the student, and the person raising the concern about the student's behavior or performance. The meeting is not to be interpreted as disciplinary, but rather as an effort to assist the student in finding ways to improve their performance.

Composition of the Review Committee

If the coordinator determines that a formal review of the student's behavior or performance is necessary, a review committee will be convened consisting of the PhD in Technology coordinator, two faculty members and two PhD student members. The two schools on an

annual basis will elect two faculty members plus an alternate. Two members of the DSAB will serve as student members of the Review Committee. The review committee, by majority vote, will elect one member to serve as chair of the committee. This committee may be the same one that is responsible for hearing program grade grievances.

A review committee member must have no prior involvement in the case, must be impartial and must be able to render a just and fair decision. A member not able to do so should disqualify him/herself from the review. In addition, the student undergoing review may challenge any member of the review committee on grounds of prejudice or impartiality and request the removal of that particular member from the review meeting. If this occurs, the review committee shall deliberate in private and determine by majority vote, (excluding the member being challenged) whether the member should be removed from that particular case. If the vote is to remove the member, the review will continue with a committee of the remaining four members. If there is a tie, the alternate faculty will cast the deciding vote.

Notice to the Student

The advisor or coordinator will notify the student, in writing, at least one week before the review date, that there will be a formal review by the review committee. The notice will be sent to the student's last known address registered with the university and will set forth the following:

- The date, time and place of the review meeting
- The allegations against the student, stated with specificity and detailed particulars
- The student's rights during the review meeting
- The possible evidence to be presented and witnesses likely to be called during the review

Review Meeting

During the review, the individual who raised concerns about the student's behavior or performance will summarize the concerns to the committee. The student and/or his advisor will have the right, within reason, to question anyone presenting information to the committee during the review. In addition, the student will have the opportunity to speak on

his/her behalf, bring witnesses to testify at the review, and present any written or other type of evidence to be considered by the review committee.

After the review meeting, the committee will determine whether or not the allegations have been substantiated by "clear and convincing" evidence. If the committee determines that the evidence is lacking, the case will be dismissed. If the evidence is sufficient, the committee will make a recommendation about the student, which can include, but not limited to:

1. Requiring that a course be satisfactorily repeated
2. Suspending a student for a specified or unspecified length of time with or without stipulated conditions for re-admission to the PhD program
3. Permanently dismissing the student from the program. The administrative coordinator of the PhD program will notify the student, in writing, of the decision within five calendar days of the review.

Right to Appeal

Within ten calendar days of coordinator's written notice to the student of the committee's decision, the student may appeal, in writing, to the Dean of the College of Technology. The Dean may accept, reject or modify the committee decision. The Dean's decision is final.

Scholastic Performance Resulting in Departmental Action

Grade Point Requirements (GPA)

Once admitted into the PhD program, a student must maintain a cumulative 3.0 GPA. A student who fails to achieve the cumulative 3.0 minimum by the time he/she is to take the candidacy examination will be placed on "college academic probation" and will not be allowed to take the candidacy examination.

The student will then have up to two additional semesters (Spring/Summer count as one semester) to raise the GPA to the 3.0 minimum. Failure to raise the GPA by the end of two semesters will result in dismissal from the PhD program. Students who receive two or more incomplete "I" grades will be reviewed by the disciplinary review committee in an effort to determine the best path for student success.

Individual Course Grade Requirements

A PhD student must achieve a minimum letter grade of "B" in all required core and research methods courses in order to remain in and graduate from the program. A student who receives a grade below a "B" in a core or research methods course will be allowed to repeat that core course one time only. A student may repeat no more than two core or research methods courses in which he/she has failed to achieve a "B" grade. Failure to receive a "B" in the second core or research methods course will cause the student to be placed on "college academic probation." If a student receives a grade below a "B" in the third core course, the student will be dismissed from the PhD program. A student who receives a grade below a "B" in a core or research methods course he/she is repeating will also be dismissed from the program.

Appealing Academic Probation or Dismissal

The student will be notified in writing by the PhD in Technology Coordinator of his/her academic status as it pertains to "college academic probation" or "dismissal." A student who is placed on college academic probation must set up a meeting with his/her academic adviser to develop a remediation plan.

A student who is dismissed from the program because of scholastic performance deficiency may request that the Dean review the dismissal. Within ten calendar days of the date of the PhD in Technology Coordinator's written notice of dismissal to the student, the student may request in writing that the Dean review the dismissal decision. The Dean will schedule a meeting with the student, the student's academic adviser and the PhD in Technology Program Coordinator as soon as possible. The Dean will notify the student, in writing, within ten calendar days of the review meeting if the dismissal is being upheld. The Dean's decision is final.

Grading Policies

Grades and expectations of PhD students will be determined by the individual faculty of each course as outlined in the course syllabus. As per university policy, a student may pursue a grade grievance for any final grade that he/she believes was assigned capriciously or unfairly. The grade grievance must be filed according to the university's grade grievance procedure: www.emich.edu/registrar/formslibrary/forms/gradegrievance.pdf

Grievances should be pursued in the faculty member's school.

Academic Dishonesty

Engaging in academic dishonesty in any form with respect to examinations, course assignments, research projects, grades, and/or academic records, includes but is not limited to the following:

Cheating and Falsification

Using or attempting to use unauthorized materials, information or study aids in any academic assignment. Examples of cheating are: looking on someone else's paper; using any kind of "cheat" sheet or other enhancement during a test; allowing someone else to take an exam in your place; submitting the same work more than once for credit; using someone else's homework; improper collaborating on any assignment or take-home test if told that collaboration was not allowed; assisting another student in committing an act of academic dishonesty by allowing another student to copy homework or an exam; taking an exam for someone else; or giving test information to students in other sections of the same class.

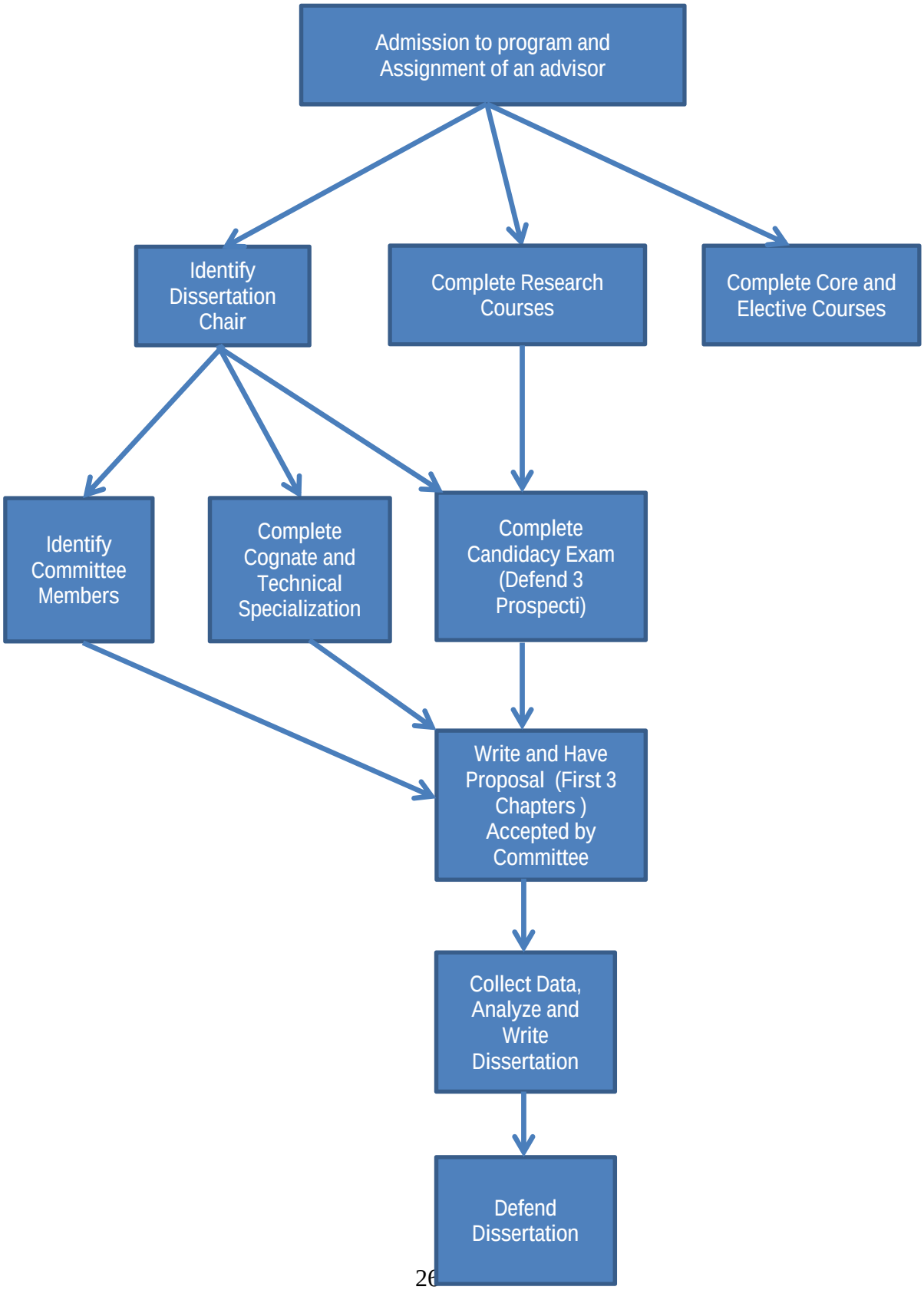
Intentional and unauthorized falsification or invention of any information or citation in an academic assignment is a falsification. Examples of falsification are: making up data on an assignment; making up a source in a paper; altering then resubmitting returned academic work; giving false information to a faculty or staff member to increase one's grade; or attempting to change, actually changing, altering grades or unauthorized tampering with grades.

Plagiarism

Deliberate and knowing use of someone else's work or ideas as one's own is *plagiarism*. Examples of *plagiarism* are: quoting a source verbatim, or paraphrasing text from a given source, without properly citing the source; turning in a research paper that was written by someone else; or in any other way passing off someone else's work as one's own; or failing to give credit for ideas or materials taken from someone else.

Also see the current Graduate School Dissertation Manual available at:
http://www.emich.edu/graduate/students/doctoral/forms.php

APPENDIX A: FLOW CHART FOR PHD IN TECHNOLOGY


Admission to program and Assignment of an advisor
Identify Dissertation Chair
Complete Research Courses
Complete Core and Elective Courses
Identify Committee Members
Complete Cognate and Technical Specialization
Complete Candidacy Exam (Defend 3 Prospecti)
Write and Have Proposal (First 3 Chapters) Accepted by Committee
Collect Data, Analyze and Write Dissertation
Defend Dissertation

Appendix B: Prospectus Template

Title of Your Research Idea

by

Your Whole Name

(Descriptive, Experimental, or Qualitative) Prospectus

Submitted to the College of Technology

Eastern Michigan University

Dissertation Candidacy Qualifying Examination Committee

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

Candidacy Qualifying Examination Committee:

Faculty Name, PhD (Note: This is your potential dissertation chair)

Faculty Name, PhD (Note: This is your potential research methods representative)

Faculty Name, PhD (Note: This is your potential academic advisor or concentration adviser)

Month Day, Year

Ypsilanti, Michigan

Table of Contents

(Delete this text; include only the TOC.) The wording of headings in the Table of Contents must correspond exactly to the wording of those headings in the text. Include a listing of the preliminary pages with page number references (except for the title page and the Table of Contents pages themselves). Ellipsis marks (also called “dot leaders”) to page number references are required.

Introduction 33

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Objective of the Research 36

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List of Figures

(Delete this text. Include only the Table of Figures.) If your prospectus contains two or more tables, you must create a List of Tables. Likewise, if you have two or more figures, create a List of Figures. Format these lists as you would a Table of Contents. All lists should be referenced in the Table of Contents in the preliminary pages section. Double check all titles to make sure they are identical from text to table.

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List of Tables

Table 1 *Budget Components* 41

Introduction

(Replace the following text with your introduction.)

Begin with a short opening statement that introduces and generally describes your prospectus. This should be one to three short succinct paragraphs that will lead into your specific statement of the problem, given in the next section. The format for the paper requires that it:

Have 1" top, bottom, and right side margins with 1.25" left margin;

Be typed and double spaced using a serif (e.g., Times) 12 point font with no right margin justification

a. Tables, figures, and block indented quotes may be single or one-and-one-half spaced
b. Table of Contents, List of Tables, List of Figures, and References must be double spaced
c. Captions must be double spaced; captions associated with figures have single spacing between the figure and the caption (Note: tables have captions above and figures have captions below)
d. Table notes are single spaced with single spacing between the table and the notes;

Show bottom centered page numbers, using small Roman numerals for the preliminary pages and after inserting a section break use Arabic numerals for the body of the text, counting but not numbering the first page of text or the cover page; and

Be formatted to utilize three or four levels of headings (Eastern Michigan University,

2012a).

Utilize American Psychological Association (APA) style (American Psychological Association, 2009) or the most current edition throughout. Do not place in a binder, use just one staple in the upper left corner of the prospectus.

Pagination can be tricky. The following guidelines should be followed.

(a.) The title page is page one, but it is not numbered.

Preliminary pages (after the title page and up to and including the List of Tables and/or List of Figures pages) are numbered in lower-case Roman numerals.

After inserting a section break, the body of the text and supplementary pages are numbered with Arabic numerals. The first page of text is p.1, but it is not numbered.

All chapters or major sections should begin on a new page.

A subsection heading should not be the last line at the bottom of a page.

Use of the features available in your word processor is highly recommended to ensure proper formatting holds across different screen resolutions, printers, etc. Note that all of these features are already built into this template, which is designed for use with Microsoft® Word® 2007 and later. Particularly valuable features include:

(a.) Use of headings and captions to facilitate Table of Contents, List of Tables, and List of Figures creation.

Citation manager to simplify ensuring that all citations have reference list entries and vice versa (Cautionary note: citation managers are not perfect and may not conform to APA in some instances).

Tabs rather than multiple spaces for indentation.

Widow control so headings are on the same page with the associated text.

Links to connect referenced material within the document (e.g., Table 1 shows . . . – use a link to Table 1 rather than typing it) to make sure they stay connected and in proper order during editing.

In addition, when saving your document as a PDF file, it is very helpful to readers to maintain the links (aka "bookmarks"). This is an optional setting when saving the file to PDF format.

The following are a few reminders regarding the prospectus.

(a.) Any points that you want to make in the prospectus must be supported by citations of research efforts and/or theory.

References should include classic texts and seminal research efforts as well as current sources that have been published within the past five years. Literature should represent all relevant aspects of the topic.

Secondary citations/sources are not appropriate. If the writer cannot find and verify the primary source of an original quote or passage, the citation may not be used.

Popular magazines, such as *US News and World Report*, *Newsweek*, and *Time*, are inappropriate sources to cite.

Popular Web sites, such as *Wikipedia* and *Cliffs Notes*, are also inappropriate sources to cite.

People are referred to as "who" and not "that."

Commas and periods are inside quotation marks (e.g., ". . . documentation provided.").

“et al.” ends with a period.

Single quotation marks are used ONLY within double quotation marks.

Statement of the Problem

(Replace the following text with your statement.)

This should be a clear, precise, formal statement of the problem. This is not the objective of the study, hypothesis, or research question, but the underlying problem or gap in knowledge that has caused a need for research.

Nature and Significance of the Problem

(Replace the following text with your nature and significance.)

This section should provide background information about the research problem and its relative significance. Develop a synthesized presentation of information obtained from an initial review of the literature, using at least eight (8) solid references related to the problem, and provide citations and/or quotations referring to the sources of the information you use. Note how past research has addressed the problem, and identify similarities or differences in their methodology or findings that have drawn you to study the problem. Possible causes of the problem and its effects, and possible results or benefits of research on the problem should be discussed. Give specific reasons why this proposed research is important and how it will contribute to the discipline. If the theoretical framework has been selected or created for your study, explain why it is appropriate and how it will be used. It is better to keep your introductory statement relatively short as long as the key definitions and stage has been set for the problem, and elaborate on the background of the study in this section.

Objective of the Research

(Replace the following text with your objective.)

With regard to the problem, and its nature and significance, precisely and concisely state the objective(s) of your prospective research project. Briefly state the task or tasks that you hope to address with your research.

Hypothesis and/or Research Question(s)

(Delete this paragraph; include only the question(s) and/or hypothesis(es).) This section should very precisely state the hypotheses and/or research questions that will be specifically investigated by your proposed research design. This is a result of carefully analyzing your statement of the problem and research objectives, in consideration of available background information and information obtained from your preliminary review of the literature.

Research Question:

Hypothesis 1:

Hypothesis 2:

Hypothesis 3:

Limitations and Delimitations

(Replace this paragraph with your limitations and delimitations.)

Specify aspects of the study and methodology or conditions imposed by the design itself or not under the control of the researcher that may limit findings and outcomes. Also identify delimitations or conditions imposed by the researcher that may limit findings or outcomes.

In many qualitative studies, the boundaries of the study may be integrated into the discussion of context and framing of the issues and need not constitute a special chapter or section of the dissertation.

Definition of Terms

(Delete this paragraph; include only the definitions.) Create a glossary to define the terms used in your study.

Term 1:

Term 2:

Term 3:

Assumptions

Assumption 1:

Assumption 2:

Assumption 3:

Methodology

(Replace this paragraph with your introduction to the section.) Begin here with a short introductory statement that leads to the research design subsection and identify the general category of research to be used. Describe your proposed methodology/procedure in the following subsections. Describe the proposed research design and include the reasons for selecting each element of the methodology, identifying the advantages and disadvantages.

Research Design

(Replace the following text with your design.)

Name and describe the generic research design to be used (see **Appendix B: Taxonomy of Research Frameworks**), based on cited references about that research design, and explain why that design is appropriate for the research problem. The design must utilize either a qualitative, descriptive, or experimental methodology (see **Appendix C: Taxonomy of Research Designs by T. Tillman**). Although mixed-model methods may be utilized, the

research must still be fundamentally classified as a qualitative, descriptive, or experimental design (Tillman, 1998) for the purposes of your candidacy qualifying examination (Eastern Michigan University, 2012b). Describe how any threats to internal validity will be minimized.

Population, Sample, and Subjects

(Replace this text with a description of your data sources and in appropriate, a description of the desired population.)

Specifically state the population the study is trying to describe or generalize to, the sample taken from that population, and the sampling technique to be used. Specify how threats to external validity are being controlled if generalization to a population is a goal. However, not all types of research use populations and/or samples. If a population and/ or sample will not be used, state why not, and what or who is being investigated in order to collect data.

Human subjects approval (if applicable)

(If you plan to collect data or information from human subjects in any part of your research project (Eastern Michigan University, 2012a), you must obtain Human Subjects Review Committee approval. Include the following language or equivalent as appropriate for your research.)

Approval for this research is required from the University Human Subjects Review Committee, and the request for approval will be included in the dissertation proposal. The researcher has completed CITI training (if true at this point; required before proposal).

Data Collection

(Replace the following text with your collection plan along with the procedures that will be used to create any instruments or treatments needed for the purposes of the study.)

Describe how the generic research design will be specifically applied to your research situation. Describe the research environment, conditions, treatments (where applicable), and data collection instrumentation and techniques to be used. Describe how any instruments and/or treatments will be created. Describe how threats to construct validity will be minimized.

Data Analysis

(Replace the following text with your analysis plan.)

Describe how the data will be analyzed in order to gather meaning from the data. Typically this section will begin with descriptive statistics for the data and be followed by the inferential analyses that are paired with each hypothesis for a quantitative effort. If using statistical analysis, you do not need to provide the actual formulas in the prospectus (actual formulas will be required in the formal dissertation proposal).

Personnel

(List and describe the people needed to conduct and/or support the research project.)

Resources

(List and describe the materials, equipment, and facilities needed.)

Budget

(Provide a breakdown of the estimated total costs for the project.)

Table 1 contains a breakdown of the expected budget requirements for this research.

Table 1
Budget Components

Component	Expected Cost
Component 1	Cost 1
Component 2	Cost 2
Component 3	Cost 3

Note: Use this section for citations, explanations, etc. Every table must be referenced in the body of the document. Tables should stretch the full width of the text.

Comments on tables and figures. Give each table or figure a specific and informative title. All tables and figures should be self-explanatory; any abbreviations should be explained in a legend, caption, or footnote beneath the table or figure according to the method and format prescribed by APA. Refer to each table or figure in the main text. Insert the table or figure shortly after the reference. Tables and figures should fit on a single page if possible. Place tables and figures as near as possible to the text that refers to them, rather than at the end of the section. The order of both the tables and figures must follow the sequence of your textual references. (Label tables and figures as described in the APA style guide.)

Timeline

(Provide a research project schedule for the start, major steps, and finish dates of the project. This may consist of a Gantt chart or a list (work breakdown structure) of the major tasks to be completed with the start and finish dates listed for each major task.)

As shown in

Figure 1, this project is expected . . . (Note: Every figure must be referenced in the body of the document.)

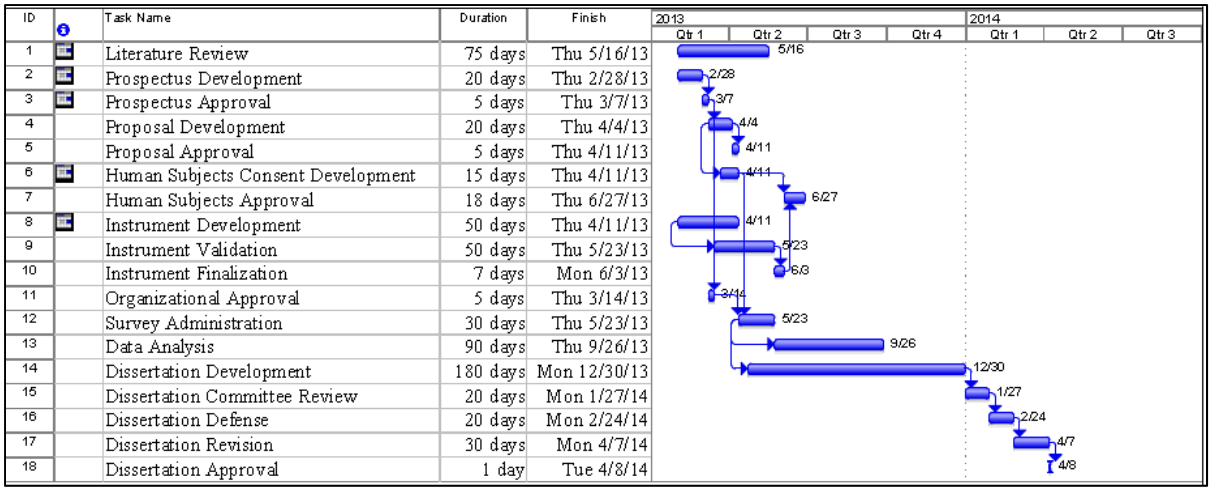

Figure 1. Project Timeline

(This is an example of the formatting of a figure. Figures should span the entire width of the text. The caption should be double spaced.)

Conclusion

(Replace the text below with your conclusion.)

This section should be a summary and concluding statement about your research idea, including the possible benefits that may result from the successful completion of the study.

Appendix D: COT PhD Dissertation Candidacy Qualifying Examination Policy is attached as a reference to guide you. Do not include it as part of your prospectus.

The final steps in creating your prospectus include spelling and grammar-checking the document, and refreshing all fields (to make sure page numbers, figure numbers, etc. have been correctly updated).

References

(Remove the following text. Include only your reference list.) Begin the References section on a new page. The use of ten or more cited references will be expected by your examination committee. Eight or more should be used to provide evidence in support of the nature and significance of the problem described in your prospectus and at least one or two should be used in support of naming and describing your generic research design. You must list all the references you cite in the text of your prospectus, and you must reference every source you cite (American Psychological Association, 2009; Eastern Michigan University, 2012a).

While the following is an example of the format and spacing for your reference list, you should not include style manuals in your list; include only references related to the technical content of your prospectus.

American Psychological Association. (2009). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author.

Eastern Michigan University. (2012a, Fall). *Dissertation Manual.* Retrieved August 1, 2013, from http://www.emich.edu/graduate/students/doctoral/forms.php

Eastern Michigan University. (2012b). *Ph.D. in technology program: Student Handbook.* Ypsilanti, MI: Author. Retrieved August 1, 2013, from http://www.emich.edu/cot/phd/main/resources.html

Tillman, T. (1998). *Taxonomy of research designs.*

Appendices

(This page should only have the title “Appendices” on it.)

Appendix A: Levels of Headings

Level 1:

Centered, Boldface, Uppercase and Lowercase Heading

Then your paragraph begins below, indented like a regular paragraph.

Level 2:

Flush Left, Boldface, Uppercase and Lowercase Heading

Then your paragraph begins below, indented like a regular paragraph.

Level 3:

Indented, boldface, lowercase paragraph heading ending with a period. Your paragraph begins right here, in line with the heading.

Level 4:

Indented, boldface, italicized, lowercase paragraph heading ending with a period. Your paragraph begins right here, in line with the heading.

Level 5:

Indented, italicized, lowercase paragraph heading ending with a period. Your paragraph begins right here, in line with the heading. (Tip: this works best if you create the entire paragraph in normal font, then paint in the formatting for the heading.)

Note: For headings at Levels 3-5, the first letter of the first word in the heading is uppercase, and the remaining words are lowercase, except for proper nouns and the first word to follow a colon. Also, it works best if you create the entire paragraph in normal font, then paint in the formatting for the heading.

Figure 2. Sample levels of headings, APA Style Headings, 6th Edition

Appendix B: Taxonomy of Research Frameworks

Will be added by the first class.

Appendix C: Taxonomy of Research Designs by T. Tillman

Qualitative Research (Naturalistic Inquiry, Field Research) – Uncovers information about a phenomenon in its natural context in order to examine complex behaviors and interactions and to derive grounded theory directly from the data.

A. Historical Research
B. Grounded Theory Studies
C. Ethnographic Studies
D. Anthropological Studies
E. Case Studies
F. Delphi Studies

Descriptive Research – Describes the characteristics or relationships of past or existing phenomenon chosen by the researcher, but not under the researcher's control.

G. Sample Survey Research
   Opinion Survey Studies
   Descriptive Statistical Survey Studies
H. Mathematical Modeling
I. Correlational Research
   Relationship Studies
   Prediction Studies
J. Causal-Comparative Research
K. Meta-Analysis

Experimental Research – Examines cause-and-effect relationships where the researcher controls (a) the group assignment of subjects, (b) conditions, and/or (c) treatments in order to determine the effect upon criterion variables.

L. Pre-Experimental Designs
   One-Shot Case Study Design
   One Group Pretest-Posttest Design
   Static Group Comparison Design
M. Quasi-Experimental Designs
   Weak Quasi-Experimental Designs

a. Single-Subject Repeated Measurements Design –

(1) Case Study Design

(2) Baseline Design

(3) Withdrawal Design

(4) ABAB Designs

(5) ABAC Designs

(6) Multiple Baseline Designs

b. Interrupted Time Series Designs

c. Cross-Sectional (Regression-Discontinuity) Design

Strong Quasi-Experimental Designs

d. Nonrandomized Group Multiple Time Series Design

e. Nonrandomized Group Pretest-Posttest Design

N. True Experimental Designs

Posttest Only Control Group Design

Pretest-Posttest Control Group Design

Solomon Four Group Design

Randomized Group Multiple Time Series Design

Factorial Designs

a. 2x2

b. 2x3

c. 3x3

d. other

Taguchi Designs

Appendix D: COT PhD Dissertation Candidacy Qualifying Examination Policy

Candidacy qualifying exam. The student must complete a candidacy examination prior to begin working on their dissertation research proposal. To be eligible for the examination, the student must have completed the following four research courses: COT 710, COT 711, COT 712 and COT 795. The COT 795 class has been designed specifically to prepare students for their candidacy examination. Once a student has passed COT 795 (Note: the student and committee chair may also determine that a portion of all cognate or specialization courses must be completed as well). he or she may register for the candidacy seminar course – COT 894 – with the approval of their dissertation chair. The student may ask their academic adviser to serve as their dissertation chair, or they may ask another faculty member to fill that role. The purpose of this examination is to determine the student's ability to:

(a.) Identify research problems in technology and apply a range of different research methods that could be used to collect and analyze data and/or information to resolve those problem(s);

(b.) Find, analyze, integrate, synthesize, and evaluate literature related to their research problem(s);

(c.) Document research plans clearly and formally in writing using EMU PhD dissertation format and APA style requirements; and

(d.) Coherently present and defend his/her research plans in a formal academic setting that is fundamentally based on a format similar to the dissertation proposal and final dissertation defense environment.

During the candidacy examination, the student is required to write and present three different types of prospecti reflecting the three different research methodologies (qualitative, descriptive, and experimental), as described in **Appendix C: Taxonomy of Research Designs by T. Tillman**.

Each prospectus report may be on the same topic or different topics, but must follow the template provided in this document.

Forming the candidacy examination committee. The candidacy examination committee is formed by the student with guidance from the PhD Program Coordinator. All members of the Candidacy Examination Committee must be members of the COT faculty. The committee should consist of the following members:

(a.) Student dissertation chair (committee chair)

Two research methods faculty

Scheduling and conducting the candidacy exam. After the student's three written research prospecti have been reviewed and approved by his/her dissertation chair, the student will distribute copies to the rest of the candidacy examination committee members no later than 10 days prior to the scheduled candidacy examination meeting. Scheduling a room for this meeting is the responsibility of the student, with the help of the PhD program associate in 109 Sill Hall. At the meeting, the student will present a 10-minute PowerPoint® presentation on each prospectus. The remainder of the exam meeting will consist of questions from the committee to determine if the student's ideas are viable, and to ensure that the student understands basic research techniques to initiate doctoral level research.

At the end of the candidacy examination, the student will be asked to leave the room so the committee may discuss the outcome and make a recommendation. The committee may recommend that the student:

(a.) Pass and be recommended for candidacy and proceed to writing a fully developed dissertation proposal;

Retake the examination (either partially or totally) after a remediation plan has been developed and implemented; or

Withdraw from the PhD program.

The chair of the candidacy exam committee submits the Candidacy Qualifying Examination Committee Report to the PhD Program Coordinator and communicates the committee decision.

Students who fail the exam may be dismissed from the program. Students who fail may appeal the decision in writing to the Coordinator of the PhD Program within 30 days of the failure of the examination. Once an appeal has been received, the Coordinator will forward the appeal to a standing review committee to review the appeal.

If the recommendation of the committee is to provide a second opportunity for examination, the second exam may not take place until at least three months have elapsed, but must occur within one calendar year. The results of the second examination will be final.

If a student is dismissed from the PhD program, the student may investigate the option of being admitted and graduating from a master's degree program in the COT using a portion of the completed PhD course credits.

Appendix C: Questions and Answers Regarding the Doctoral Program in Technology

Appendix C: Questions and Answers Regarding the

Doctoral Program in Technology

The following questions represent some of those recorded by the Doctoral Student Advisory Board during a meeting of all Doctoral students on March 18, 2012. The answers have been formulated by the Dean and the Ph.D. program coordinator along with the DSAB. Other questions will be addressed by the DSAB.

1. **What research is being done by both COT graduate and PhD students? What research is being done by the professors? Can this information be put onto a web site?**

   The Ph.D. web site is being modified, and before July 1, 2012 we will be attempting to address these items. The current plan is to group the faculty and student research interests by concentration, to help new students identify possible collaborators. We will also list the names and dissertation titles of those who have completed the program.

2. **Who approves the cognates, the Academic Advisor or the Dissertation Chairperson?**

   The Dissertation Chairperson must approve the cognates and anything else on the B portion of the POS.

   You will be assigned an Academic Advisor when you are admitted to the Ph.D. program. Your Academic Advisor signs for Part A of the POS.

   You must select and work with your Dissertation Chairperson to determine your specific plan of study, shown in Part B. The Dissertation Chairperson signs Part B of the POS, which includes the cognates.

3. **Regarding the 13 semester hours of dissertation credit, do I have to take one eight hour class as I complete my research hours?**

   You will need to take a total of 13 hours and they may be taken in any combination of one (COT 896), two (COT 897), four (COT 898), or eight (COT 899) semester hours of credit.

   As a guide, you should have the first three chapters of your dissertation proposal approved around the time you complete or are completing six to eight semester hours of dissertation credit. When you schedule your final dissertation defense, you should be registered in the last one or two hours of dissertation credit.

   Work with your chairperson to plan the best way to spread the dissertation semester hours to match your individual situation.

4. **There are limited resources at EMU in the COT (as with any educational program).**

   a. **Is there research funding assistance available from the COT, or must the student finance everything?**

      You may request up to $200 to support conducting your research and another $200 for travel to present research, by completing one of two forms that can be found at the following URL (note: more than one travel or research award per applicant is possible based on funding availability):

      http://www.emich.edu/cot/phd/main/financialaid.html

      You may also seek support from the Graduate School for travel to present research. See item under "T" at the following URL:

      http://www.gradschool.emich.edu/downloads/downloads.html#top

   b. **How do students get needed supplies, tools or equipment?**

      Supplies are to be acquired by the researcher. Specific tools or equipment available within the COT may be used by the researcher by making arrangements through your Committee Chairperson and the professor in charge of the specific lab area.

   c. **Can the resources that are available per concentration be listed somewhere (e.g., on a web page)?**

      It is very difficult to list or photograph every piece of equipment that is available in the COT labs. Also, equipment and tools sometimes break; thus the COT cannot guarantee their availability just because they are on a changing list.

      The researcher should get to know the professor in charge of the specific lab areas where the tools and equipment are located to arrange a tour of the specific resources available.

5. **Regarding the Ph.D. Progression Flow Chart discussed during the March 18 meeting, why are some boxes on the side of the main path?**

   This Ph.D. Progression Flow Chart is intended to help students understand the sequence of classes that are to be taken and in which order. An updated flow chart is being placed in the new student handbook. (Available by August 1, 2012).

6. **Students want help getting internships (especially international students).**

   The best advice is to work with your Dissertation Chairperson and Committee to seek these opportunities, since they are most familiar with your area of

interest and concentration. EMU's Advising and Career Development Center may be able to help identify opportunities and the Office of International Students may be able to help international students with visa issues as they relate to internships.

7. **Why are all Dissertation defenses in the afternoon? Hold some in the evenings, or video record a few as samples, so part time students can become involved.**

   The individual committee determines the time. Finding a schedule that allows all committee members to attend is sometimes a challenge. Many graduate faculty members at EMU teach at night, and the day seems to be the best time, but occasionally some night meetings are held.

   There are currently plans to video several student dissertation defense presentations. There is sensitivity around Q&A and deliberations for both the student and the committee, making it inappropriate to make this discourse publically available, so the Q & A and deliberations by the committee will not be recorded. The best plan is to place attendance of a dissertation defense high on your list of priorities so you will have a better idea of what to expect.

8. **Is the POS signed by COT & Grad School?**

   Recall that in question 2 both the COT Academic Advisor and Dissertation Chairperson signs Parts A and B of the POS. The POS is not signed by the Graduate School. However, the POS is checked by the registrar's office as you approach graduation.

9. **What is the length of time that classes can still fulfill PhD graduation requirements?**

   For the Ph.D. in Technology program seven years is the time limit in most cases.

10. **Tell us more about presenting prospecti in COT 894?**

    COT 894 (2 semester credits) is the qualifying exam which is primarily conducted to determine whether the student has the knowledge and skills to begin the dissertation phase of the degree. It is not a proposal meeting, but it is designed to determine whether the student is a good consumer of descriptive, experimental, and qualitative research. Without this knowledge and skill, one is not able to build the case for a research agenda or a specific research effort.

    COT 795 provides a review of the three major types of research, familiarizes the student with the prospectus format, and provides two opportunities to refine each of the three prospecti. Thoughtful students will craft each prospectus consistent with their planned research agenda and problem, realizing that this process is iterative and will require several refinements to

become acceptable. Also, in COT 795 you learn to present a prospectus in the way expected in COT 894 and in a proposal defense.

While registered for COT 894, the student will work primarily with the Dissertation Chairperson to refine the documents and prepare for the prospectus defense. The dissertation chair and two COT committee members (one must be a research methods person) will form the qualifying exam committee.