



Doctorate in Information Assurance

Dissertation Handbook

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STATEMENT OF MISSION AND GOALS

Mission

The mission of the University of Fairfax (UoF) is to offer flexible, on-demand, distance education programs that meet the needs of employers in a changing global marketplace. The University designs quality programs that foster critical thinking, effective communication, and collaboration in career-focused disciplines. The programs offer students practitioner-focused curricula that advance applied knowledge and research in applicable contemporary career fields.

Vision

The University supports this mission by developing curricula which are continually improved through outcomes assessment and consultation with practitioner faculty. UoF delivers its programs through an accessible, interactive, collaborative, online educational environment that strengthens learning and facilitates critical thinking, problem-solving, and applied research competencies. Finally, it supports students with services that foster academic success.

Institutional Goals

- Offer relevant distance education degree programs that graduate individuals with the knowledge, skills, and abilities to meet the needs of employers in cybersecurity, information technology, and business-related disciplines.
- Support the changing global marketplace by preparing professionals to think critically and offer solutions to address industry challenges.
- Develop professionals with strong interpersonal skills able to effectively contribute to the advancement of their chosen discipline.
- Design programs that allow professionals to apply knowledge and research in an effort to enhance their chosen field.
- Promote a learner-centered culture that encourages diversity of thought and continued development of contemporary career fields.
- Foster a culture of continuous improvement that results in high quality distance education programs that meet students' academic goals and changing employer needs.

Motto

The rationale for the founding of the University is encapsulated in the University motto: ***Secure Your Future*** or ***Munite Futurum*** in Latin, as displayed on the University's seal. In essence, the motto expresses that earning a University of Fairfax degree enables students and alumni to

contribute to “securing the future” of the nation, while also helping to secure their own, as they become cybersecurity leaders in a field for which there is a continuing and ever-increasing demand.



MESSAGE TO OUR DOCTORAL STUDENTS

Dear Doctoral Student,

The *University of Fairfax Dissertation Handbook* has been developed to ensure that you have a gratifying and successful dissertation experience. It serves as a tool to help you complete your dissertation and ultimately earn your doctorate in a timely manner.

You might be surprised to know that recent surveys estimate that over 50% of doctoral students have completed all of their coursework and yet are unable to complete or -- in some cases -- even begin their dissertations. This affliction is referred to as the *All But Dissertation (ABD) Disease*. Extensive research on doctoral education in the U.S. has identified several possible causes for *ABD* including unsympathetic advisors, institutional “politics”, as well as family obligations and other personal obstacles.

The University of Fairfax is dedicated to the success of our doctoral students and has developed a “vaccine” for ABD which consists of the following components:

- Initiating dissertation preparation early in the doctoral program;
- Teaching students how to identify and select feasible problem-driven dissertation topics;
- Utilizing dissertation topics which relate closely to students’ professional experience;
- Assigning advisors with the professional experience and academic skills to guide and motivate adult learners;
- Requiring students to focus on applied field research methods for their dissertations;
- Guiding students to follow a “project management” approach to their dissertation; and
- Ensuring that students produce dissertation deliverables in manageable sections as they progress through their program.

This handbook outlines in great detail all of the steps you must follow in order to complete your dissertation---and help the University of Fairfax “quarantine” ABD.

This structured process is designed to help you acquire the academic credentials and expertise to help you serve as effective, ethical leaders addressing critical issues in the information technology arena. We are personally committed to the success of every one of you as you embark on this challenging and rewarding journey to help secure your future and that of our nation.

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1. INTRODUCTION

The *University of Fairfax Dissertation Handbook* has been developed as a resource to help guide doctoral students through the dissertation process, from identifying a feasible, problem-driven dissertation topic to producing a defensible dissertation.

Doctorate students must produce dissertations that:

- Address a significant and relevant problem experienced by practitioners in their chosen degree and concentration field;
- Identify a proposed solution to the problem or research gap based on public sources, including the professional literature, previous empirical research, and relevant theory; and
- Test the feasibility of implementing the proposed solution.

Furthermore, an approved dissertation from the University of Fairfax must:

- Describe original field research to be conducted independently by the student;
- Review prior empirical research to establish the criteria for selecting the proposed solution;
- Specify the criteria utilized in determining the feasibility and/or adoptability of the proposed solution;
- Collect empirical data for use in evaluating the suitability of the solution;
- Describe and interpret the results of the data analysis;
- Clearly describe the knowledge added as a result of the study; and
- Explain the implications of the results for future research, practice, and policy.

To further support doctoral students, dissertation related resources, including manuscript/document and presentation templates, curriculum overviews, and previously completed UoF dissertations, are available to students in the *Dissertation Center* located on the *Canvas* Platform or in the University Library. This handbook supersedes all prior handbook guidance provided by the university.

The first section of the handbook provides an overview and specific expectations the student must abide by in the preparation of the research and dissertation manuscript. The second half the handbook is made up of step-by-step procedures for the research portion of the course work and the written dissertation manuscript.

Dissertation Expectations

The use of the dissertation as a tool of research has a lengthy history. It is said the first use of the terminology appeared around 1691 (Merriam-Webster, 2020). The typical definition is: A document written to report on research or the special handling of a subject. The dissertation is considered the pinnacle of work done in completion of the requirements for the doctoral degree.

The more detailed requirements of the UoF course work is presented later in this document under the heading of Dissertation Project Plan. However, the general requirements for completing the dissertation are outlined in this section.

A dissertation presents a detailed discussion of the topic area to be studied, a historical narrative of past research, an outline of the method for collecting data, and the analysis of the findings. The level of detail is important, as a requirement of any research is that it be replicable. Your research must provide a thorough discussion of all areas of your study so someone else could replicate your research, either to check accuracy or expand on your research. This requirement drives the length of the manuscript you will produce. Although the number of pages required to provide the detail is not set in stone, typically the document will be a minimum of 120 or more pages.

For UoF dissertations, the following applies:

- The dissertation must adhere to the currently acceptable edition of the American Psychological Association Publication Manual. Any deviation to the APA style will be noted in the UoF Dissertation Template
- Use of the UoF Dissertation Template is required
- The topic must be approved as noted in the Dissertation Project Plan section of this handbook
- The proposal and final manuscript must be approved by a committee assigned by the university. The proposal and Institutional Review Board (IRB) application must be approved before the collection of data
- The student may only use approved research methods for the collection of data

The university requires the use of the American Psychological Association (APA) style of writing for doctoral work. The current edition of the APA Publication Manual must be used. However, the university may decide to deviate from the APA style for some formatting. When a deviation is used in the manuscript, that difference in style is clarified in the UoF Dissertation Template. The use of the template is a requirement. The template can be found on the portal or can be requested through your instructor. There is an associated manual that outlines the use of the template. It is required that you, the student, know how to use the template and understand APA formatting.

The university allows the following methodologies for conducting your research and collecting your data:

- Quantitative
- Qualitative
- Design Science Research
- Mixed Method (With the approval of the Dean)

When conducting research, it is important to use acceptable numbers of participants. The following are general guidelines for determining how many participants are normally required by research methodology:

- Quantitative method should be based on the use of a participant calculator. Check with your instructor for approval on the survey calculator you plan to use. The number of participants you will need is based on statistical measures and the population of potential participants from which you can draw a sample
- Qualitative method typically suggests 15 to 20 participants. It is an expectation that you plan for the typical number of respondents. In some circumstances, it may be acceptable to use a smaller number of participants; however, any deviation from the norm must be approved by

your dissertation chair. The number of planned respondents is normally set in the proposal and approved by the committee

- Design Science Research does not usually use human participants. When the study does involve humans, an appropriate number of respondents will be required
- Mixed Method, which must be approved by the Dean, has varying numbers of participants. Again, the number of respondents would need to be approved by the instructor

An IRB application is required for any research conducted at UoF, even if the study will not involve any human participants.

In any research study in which human respondents are used, the researcher must assure any risk to the participants is minimized. All research at the university falls under guidance as outlined by the United States Department of Health and Human Services. You must abide by all rules and regulations, including those as set forth in the Belmont Report, Common Rule, and the Office for Human Research Protections (OHRP). You, as the student, are required to know and understand those guidelines. As a part of the preparation for conducting your study, you will be required to take the training offered by the Collaborative Institutional Training Initiative (CITI). The training program covers the regulations you must abide by. You must pass this training before you apply for IRB approval of your study.

As noted earlier, you have an obligation to provide detailed coverage of your research. The main point to keep in mind is that you must provide enough evidence to justify the research and to satisfy the committee. The committee is acting on behalf of the academic community in assessing your ability to address a research topic. It is their responsibility to assure a quality outcome. In line with that requirement, the following are general guidelines for writing your chapters (check with your instructor) and preparing evidence from the literature as to the validity of your study:

- Chapter 1: Typically, the chapter is a minimum of 12-15 pages. However, the length may vary based on the type of study.
- Chapter 2: The length of this chapter is based on amount of evidence from past research in the topic area of the study. You must provide sufficient synthesis of prior research. The typical page length is a minimum of 40-60 pages.
- Chapter 3: The length of the chapter is related to the research method you will employ. You must provide enough narrative in all sections of the chapter to allow a fellow researcher to duplicate your study. The typical length of the chapter is 12-15 pages
- Chapter 4: The length of the chapter is related to the amount of data you must analyze and report on. The typical length is a minimum of 10 pages
- Chapter 5: The length of the chapter should be driven by the interpretation of the results of the study and number of recommendations you make. The typical length of the chapter is 8 to 10 pages
- References: Any study that has been thoroughly researched should consist of a minimum of 80 references. References **MUST** be academically sound (Explained in more detail in the next section)

The purpose of a study must be defensible. The evidence of defensibility is made possible by the number of references used and the quality of those references. The following are the primary acceptable references types:

- Journal articles from academic publications
- Dissertations
- Conferences submissions

Any other sources of references are generally not acceptable. Use of references not in the above list MUST be approved your research chairperson. Generally, non-academic sources should not be used; however, there can be occasions where a text or corporate website is necessary.

Another point to remember as you write the various sections, such as the Chapter 2 – Literature Review, is that you cannot present any information from your own perspective or background. The term often used in the academic community is that you have no “scholarly voice” as a doctoral student. All evidence you present related to the topic, including prior research on the subject and discussion of the gap in the literature, must come from academic sources. Again, personal observations are not allowed in your dissertation research.

A study will be allowed to use secondary datasets, when appropriate. A secondary dataset is data already existent. A good example of secondary is United States Census Bureau data. Generally, secondary data comes from the public domain (available to the public without needing permission) or private datasets from prior studies (which require permission from the dataset holder). You should obtain instructor/chair/committee approval prior to the use of secondary data. The use of secondary datasets must provide relevant information that can be statistically analyzed. Generally, secondary is used with quantitative studies.

The following list provides general information on other concerns you must be aware of as you plan on your research study:

- You must assure your study does not use protected groups of human participants (per the US OHRP). Protected groups have special requirements that require IRB approval. However, protected groups should generally be avoided due to the added concerns and problems in using them
- The use of military personnel (active duty and reserve) requires special considerations, including permissions. Check with the Dean regarding permissions and approval of military participants
- Use of data not collected from human participants should be evaluated and approved by your instructor or chair. Although data gathering from system (non-human) interactions generally avoids harm to others, you must provide an IRB application for approval

The rest of this handbook provides specific steps used in the UoF program.

2. DISSERTATION PROJECT PLAN

To ensure that students make steady progress towards the completion of their dissertations, the University has developed the *Dissertation Project Plan* (DPP).

This plan consists of a series of deliverables students produce while they are enrolled in research methods courses, research preparation courses and dissertation development courses. The sequence of the activities you will undertake, the deliverables you will produce and the approvals you must obtain during the development of your dissertation are depicted in Figure 1.

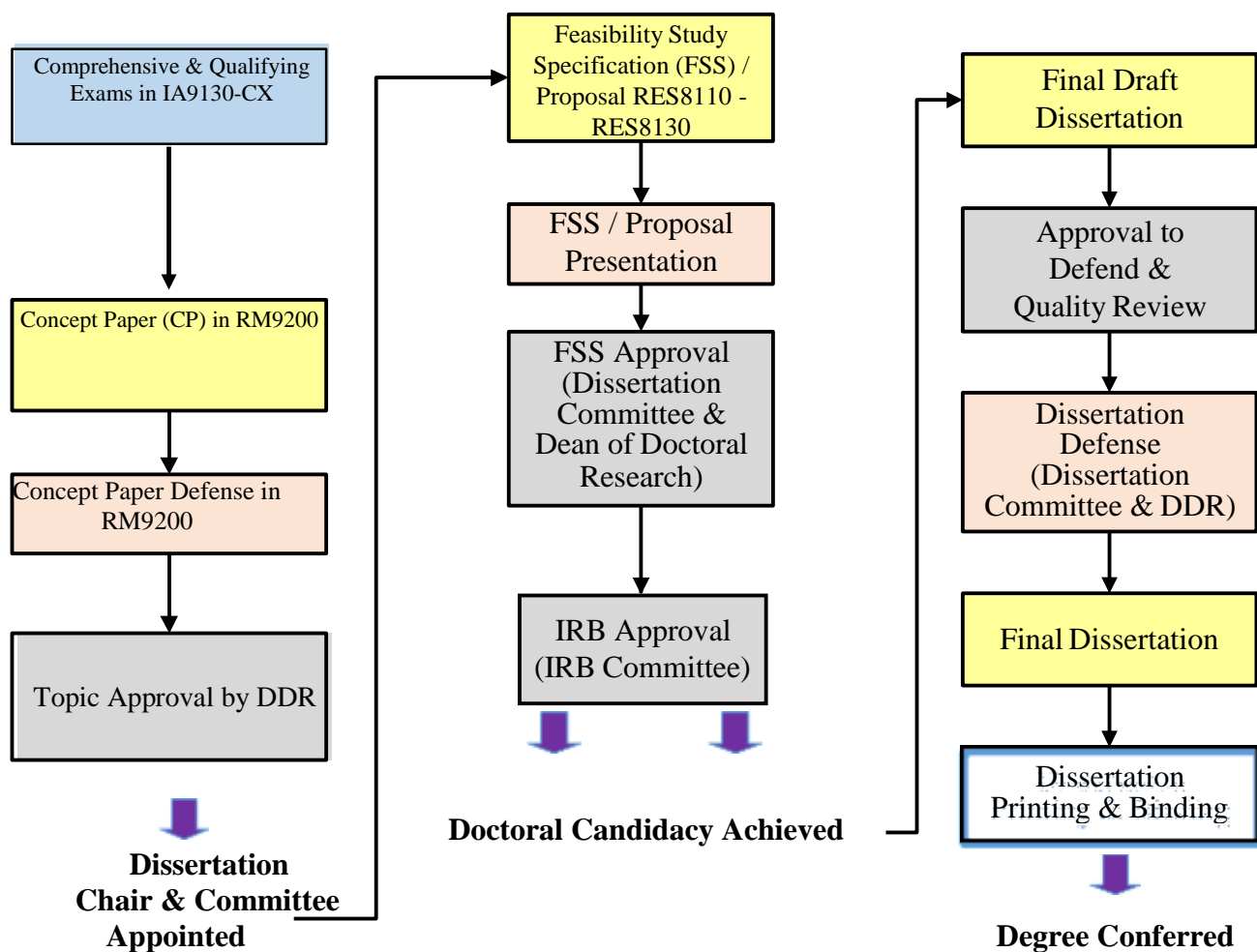


Figure 1. University of Fairfax DIA Dissertation Development Process

Five Phases of the Dissertation Project Plan (DPP)

As students proceed through the dissertation coursework and the iterative process of the DPP, they achieve five major milestones which culminate in an approved dissertation. This process and the associated course sequence are depicted in Figure 2.

In initial Pre-Dissertation Research Methods courses (*RM8500*, *RM9100*) students are introduced to the requirements of research writing, and to the fundamentals of extracting practical knowledge and potentially researchable questions from the research and practitioner literatures. These tools are employed in the Comprehensive & Qualifying Examination (*IA9130*) which runs concurrently in the final four weeks of *RM9100* and in the Advanced Research Methodology courses (*CEX8220*, *CEX8230*, *RM9150*, *RM9200*) that occur during the Pre-Dissertation Phase and the Phase I of the DPP, and are used throughout the program in preparing deliverables. The Comprehensive & Qualifying Examination also known as the “Comp Exam” (for short), is the culmination of your pre-dissertation research and writing coursework. The successful passing of the Comp Exam allows you to move into the next stage of the doctoral degree process--the dissertation research and writing stage. You may not move forward until you have successfully passed the Comp Exam in *IA9130*. The purpose of the Comp Exam is to determine whether the student has read, understood, and can critically assess and apply the various lessons of the coursework learned in the program to date. The Comp Exam is designed to assess the student’s ability to grasp the chosen field of study as a whole and his/her ability to critically assess, analyze, describe, problem-solve, synthesize, and effectively communicate this breadth of in-depth knowledge to an academic audience.

In the Phase I of the Dissertation Plan (*RM9150*, *RM9200*), the course emphasis is on research topic and field site selection, and research methods. Students select a research topic associated with an Information Security problem of interest to them and identify research sites that can provide useful data concerning potential solutions. They also familiarize themselves with the research methods needed to acquire the needed data. During the *RM9150* and *RM9200* courses they prepare the Concept Paper, the first major deliverable in the program. The Concept Paper is presented to the faculty and Dean of Doctoral Research (DDR) at the Concept Paper session following the *RM9200* course. If approved, the student advances to Phase II of the program under the guidance of a Dissertation Committee made up of the faculty who teach the remaining courses in the program, also known as your Doctoral Committee Chair.

Phase II consists of the Research Preparation courses (*RES8110*, *RES8120*, *RES8121*, *RES8130*) in which doctoral students follow a structured approach to designing their dissertation study, refining their research question, and developing the operational details for their study. They focus on clearly specifying the assessment criteria and organizational requirements needed to justify a proposed improvement in professional practice, and on designing and implementing such an assessment. Three important program deliverables are produced in this phase: 1. the Dissertation Proposal (Chapter 1 – Chapter 4.1); 2. the IRB Application (which certifies the willingness of the field site to participate in the study); and 3. The Collaborative Institutional Training Initiative (CITI) research training program.

Once doctoral candidates complete the Research Preparation courses, they are admitted to Candidacy and enroll in Dissertation Development courses (*DST811X*, *DST813X*) during which they conduct their approved research and complete the dissertation manuscript (Chapter 4.2 – Chapter 6 and all Appendices, as needed) under the guidance of their Dissertation Committee Chairperson. Candidates then orally defend the doctoral dissertation before their Dissertation Committee and the DDR, as required for the doctoral degree.

Thus, the completion of the course deliverables leads to the completion of the dissertation itself. In *Phase II*, under the guidance of the Dissertation Committee, doctoral students work towards the goal of achieving candidacy status by producing an approved Dissertation Proposal (Chapter 1 – Chapter 4.1); obtaining IRB approval to conduct their proposed primary research; and successfully completing and passing The Collaborative Institutional Training Initiative (CITI) research training program. **If at any time, a student does not meet all of the deliverables in any course (including IA, CEX, RM, RES, and DST courses), the student will have to repeat that course until all deliverables are completed and chair-approved for quality. A student may not retake any course more than three (3) times.**

Pre-Dissertation Qualifications

In Research Methods courses, doctoral students are introduced to the field research process. Early in their program coursework, in *RM8500* and *RM9100*, students develop secondary research skills and gain valuable experience in developing writing skills needed to meet academic standards of research.

Prior to taking the two Advanced Research Methodology courses (*CEX8220*, *CEX8230*), students enrolled in the DIA program must complete and pass the Comprehensive & Qualifying Exams (housed under separate course shell (*IA9130*) which take place in week 4 (and are due in week 6) of the *RM9100* course. Students are expected to independently take the Comprehensive & Qualifying Exams while simultaneously completing the requirements of *RM9100*. Students will be automatically enrolled in *IA9130* when they are enrolled in *RM9100*. The *IA9130* course is zero credits and the student will not incur any additional course fees. The Comprehensive & Qualifying Exam consists of two, multi-part essay questions in which the student will prepare two thoughtful essay responses to each question consisting of a minimum of 15 pages each (or a total of 30 pages minimum). The purpose of the comprehensive examination is to determine whether the student has read, understood, and can critically assess and apply the various lessons of the coursework learned in the program to date. The comprehensive examination is designed to assess the student's ability to grasp the chosen field of study as a whole and his/her ability to critically assess, analyze, describe, problem-solve, synthesize, and effectively communicate this breadth of in-depth knowledge to an academic audience.

Once the student has successfully passed *RM8500*, *RM9100*, and *IA9130* (*Comp Exam*), the student will then take the two-course Advanced Research Methodology sequence (*CEX8220*, *CEX8230*), which is designed to assess the student's ability to conduct independent research under the guidance of an instructor, as well as, assess the student's methodology skill-sets. The *CEX8220* is designed to assess the student's quantitative research skills. The *CEX8230* is designed to assess the student's qualitative research skills. Students will work with the instructor to identify, develop, and write a 25-30 page advanced research paper in each of the two Advanced Research Methodology courses (*CEX8220*, *CEX8230*) that adheres to the topic and methodological parameters set forth in the class syllabus. Students present their exam paper at the final SyncSession of each course.

CEX8220 and *CEX8230* assess the student's ability to listen to the instructor and incorporate the instructor's feedback. These courses will also assess the student's ability to work productively with the instructor to accomplish the following goals including, but not limited to: choosing an appropriate a topic that aligns with the parameters set forth in the class syllabus; refining the topic; conducting the literature review; designing the study that that aligns with the parameters set forth in the class syllabus; collecting appropriate evidence; interpreting the findings; critically assessing/analyzing the evidence in relation to the problem under investigation and the research

questions; critically assessing/analyzing the evidence in relation to the problem under investigation and the hypotheses (quantitative research); and writing scholarly doctoral-level research that adheres to APA guidelines. The assessment of the aforementioned personal attributes and skill-sets, in addition to the formal research knowledge and skill-sets under investigation in the *CEX8220* and *CEX8230* courses are paramount to improving the student's success later in the program when h/she is researching and writing his/her own, original dissertation project with his/her Chair during Phases I, II, III, and IV (*RES8110*, *RES8120*, *RES8121*, *RES8130*, *DST8110x*, *DST8130x*).

Phase 1: Identifying a Dissertation Topic

The first milestone of the *Dissertation Project Plan* (DPP) is identifying a researchable (feasible, non-trivial) topic. This forms the foundation for all future activities in the dissertation process. During this phase, the course instructor facilitates scheduled *SyncSessions* for cohorts of students as they are introduced to the dissertation process.

Step 1. Understanding the Dissertation Research Process

After completion of program coursework (core, specialization and/or elective courses) and the pre-dissertation exams, doctoral students participate in an orientation to become familiar with the *Dissertation Handbook* and the requirements of the dissertation deliverables. (See all *Appendices*).

Step 2. Understanding Research Principles and Techniques

In *RM8500*, after a general introduction to the field of Applied Social Research, students are introduced to research methods that are particularly useful in the study of 'problem-centered' research designed to assess the merits or usefulness of solutions to problems, particularly of Information Security problems. This sub-field is generally known as 'Evaluation Research', and students will become well acquainted with its various forms.

In *RM9100*, students are introduced to qualitative and quantitative tools for data analysis and interpretation. In this course, they evaluate the applicability of these tools to different study types including those used in evaluation research. Students enrolled in the DIA program must complete and pass the Comprehensive & Qualifying Exams (housed under separate course shell (*IA9130*) which take place in week 4 (**and are due in week 6**) of the *RM9100* course.

In *IA9130*, students are expected to independently take the Comprehensive & Qualifying Exams while simultaneously completing the requirements of *RM9100*. Students enrolled in the DIA program must complete and pass the Comprehensive & Qualifying Exams (housed under separate course shell (*IA9130*). The Comp Exam questions are released to the student in week 4 and the Exam is due back before week 6 ends. Students will be automatically enrolled in *IA9130* when they are enrolled in *RM9100*. The *IA9130* course is zero credits and the student will not incur any additional course fees. The *IA9130* course contains everything that the student will need to complete the Comp Exam.

Step 3. Identifying a Feasible and Accessible Research Site

In *RM9150*, students identify feasible research sites and the components of a successful research site access plan. Once a feasible research site is selected, the student starts to produce the *Concept Paper*.

In *RM9200*, students utilize the elements of solution-based research. Faculty members guide the student in the identification of the problems and potential solutions that can be investigated in the

implementation of the feasibility study which will serve as the student's dissertation project. The student articulates a problem statement and acceptable research question, and prepares the final draft of the Concept Paper for faculty and DDR review along with a PowerPoint Presentation of the Concept Paper and submits both deliverables to the course *Dropbox*. Upon approval of the faculty member, the document is submitted to the Dean of Doctoral Research (DDR) for approval to participate in the *RM9200* Dissertation Concept Paper Presentation in the final two weeks of the *RM9200* course where the student will formally present their research via a professionally polished PowerPoint Presentation. The *RM9200* Concept Paper Presentation of the student's research should be approached in the same way a student approaches the final dissertation manuscript oral defense at the conclusion of *DST813x*. The *RM9200* Concept Paper Presentation requires practice and preparation in order for the student to demonstrate to the DDR that the research is viable and dissertation-worthy, which is to say, of high enough quality (read as, academically rigorous) for the DDR to permit the student to move onto the next phase of the DDP (Phase II) where the student will refine and further develop the Concept Paper into the dissertation proposal (*RES course sequence*) which will form the foundation for the dissertation manuscript in Phase III (*DST course sequence*). Students should strive to develop a strong Concept Paper of the doctoral research project that the student will further refine and develop in Phases II, III, and IV. The more thought-out and developed the Concept Paper, the smoother the progression through Phases II, III, and IV. Students requiring additional time to produce the required class deliverable / deliverables are rerolled until the deliverable is approved

Step 4. Obtaining Approval of a Feasible Problem-Driven Research Topic

In *RM9200*, doctoral students present their research sites and topic selections to the DDR and invited faculty who are potential Dissertation Chairpersons and/or Dissertation Committee members. After the presentations are reviewed and topics approved, students progress to Phase II under the guidance of a Dissertation Committee of faculty members who will be their course instructors during that phase.

Phase II: Achieving Candidacy

Achieving Doctoral Candidacy status is a major milestone in the dissertation process. Working under the guidance and mentorship of an assigned Dissertation Advisor, the doctoral student completes this phase while enrolled in Research Preparation courses. From this point forward, the student works individually with the Advisor and submits all dissertation deliverables in the designated course shell on the *Canvas* platform. Building on work initiated during the Concept Paper analysis, the student interacts with the Dissertation Committee and develops the Dissertation Proposal (Chapter 1 – Chapter 4.1, submits the IRB Application, and completes The Collaborative Institutional Training Initiative (CITI) research training program with a passing score.

The Dissertation Proposal and the IRB Application are submitted to the Candidacy Committee for review and recommendation. Candidacy status is granted once the student completes all of the mandatory CITI training modules and achieves a passing score (of 80% or higher) and the student receives formal approval and ratification of the Dissertation Proposal and the IRB Application by the Dean of Doctoral Research (DDR) (See *Section 3*.)

Step 5. Developing the Dissertation Proposal (Chapter 1 – Chapter 4.1)

In *RES8110*, students conduct a detailed review of research literature in order to develop a rationale for the approved topic and formulate the final problem, research question, and the potential solution that will be evaluated in the stud. *RES8110* is designed to focus your initial

efforts on the development of a compelling rationale which explains why the professional and academic audiences will be interested in the results of your feasibility study of a proposed solution to an identified problem affecting stakeholders at your research site. In *RES8110*, students conduct a preliminary review of the research literature in order to develop a rationale for the approved topic and formulate the final problem, research question, and the potential solution that will be evaluated in the study. The preliminary literature review conducted in *RES8110* used to frame the proposed problem and research study will be fully expanded upon in *RES8120 and RES8121*. The primary deliverable in *RES8110* is Chapter 1 of the dissertation proposal (a.k.a, the Concept Paper). Students requiring additional time to produce the required class deliverable / deliverables are rerolled until the deliverable is approved

In *RES8120*, the doctoral student continues to work under the guidance of the Dissertation Committee while reviewing and synthesizing prior research with respect to previous problem resolution attempts. From this review, the student determines the criteria to be used in the evaluation of the proposed solution. *RES8120* focuses your attention on the review, synthesis, and analysis of the current literature which identifies potential solutions and narrows the criteria you will use to assess the feasibility of the solution (a.k.a., the research problem) you choose to test. In *RES8120 and RES8121*, students fully expand upon the preliminary literature review conducted in *RES8110 (Chapter 1)*. The primary deliverable in *RES8120* is Chapter 2 of the Dissertation Proposal (a.k.a., the Literature Review Chapter). Since Chapter 2 is expected to be 40-60 pages in length, the Literature Review is broken into two courses (*RES8120 and RES8121*). Students are expected to complete the first half of the Chapter 2 in *RES8120* and complete it in *RES8121*.

In *RES8121*, the doctoral student continues to work under the guidance of the Dissertation Committee while reviewing and synthesizing prior research with respect to previous problem resolution attempts. From this review, the student determines the criteria to be used in the evaluation of the proposed solution. In *RES8120 and RES8121*, students fully expand upon the preliminary literature review conducted in *RES8110 (Chapter 1)*. The primary deliverable in *RES8121* is Chapter 2 of the Dissertation Proposal (a.k.a., the Literature Review Chapter). Since Chapter 2 is expected to be 40-60 pages in length, the Literature Review is broken into two courses (*RES8120 and RES8121*). Students are expected to complete the first half of the Chapter 2 in *RES8120* and complete it in *RES8121*. Students requiring additional time to produce the required class deliverable / deliverables are rerolled until the deliverable is approved

In *RES8130*, students develop the data collection plan that specifies the methods of measurement for the variables and the data collection procedures to be followed. Under the guidance of the Dissertation Committee, students identify the instruments and protocols to be used. Based upon the data specified, the student identifies the data analysis techniques that will be utilized in the study. *RES8130* requires you to describe the context of your study and the approach and methods you will use in conducting your dissertation research. In this course, students finalize the operational requirements of the dissertation proposal and specify their proposed improvement in professional practice. Students document research procedures utilized as the final deliverable in the course. In *RES8130*, students focus on the completion of Chapter 3 - Chapter 4.1 (Chapter 3 Methodology Chapter and the first section of the Chapter 4 Results Chapter (Section 4.1)). In addition to completing Chapter 3 and Chapter 4.1, the student will also work on finalizing the complete Dissertation Proposal from the Title Page to the 4.1, including any Tables, Charts, and Appendices, as needed plus the full working bibliography to date. The student will also be required to complete the IRB Application with the help of his/her Chair before sending it to the IRB Committee and DDR

for review and complete the CITI research training modules with a passing score of 80% or higher. *RES8130* requires that the student possess excellent time management and self-motivation skills. The completed Dissertation Proposal is submitted to the course dropbox in Canvas and, upon recommendation of the Dissertation Chair, is submitted to the DDR for review. In addition to the Dissertation Proposal, the student must submit the IRB Research Application to obtain IRB approval. If approved by the DDR, the Dissertation

Proposal and the IRB Research Application are distributed to the Candidacy Committee and Institutional Review Board for review. Students requiring additional time to produce the required class deliverable / deliverables are rerolled until the deliverable is approved

The work of these four RES courses (*RES8110*, *RES8120*, *RES8121*, *RES8130*) culminates in the production of the Dissertation Proposal (Chapters 1-4.1), the IRB Application, and the CITI research training.

Step 6. Attaining Doctoral Candidacy Status and IRB Approval

The Institutional Review Board reviews the *IRB Research Application* and the data collection instruments and procedures to determine if IRB approval can be granted. If granted the DDR signs the *Certification of IRB Approval* which must be included as an appendix in the completed dissertation.

The Dissertation Proposal is reviewed by the Candidacy Committee to determine if the student has demonstrated readiness to conduct primary research. This committee recommends or defers the granting of candidacy based on approval of the Dissertation Proposal. The decision of the Candidacy Committee is ratified by the DDR. (See *Sections 3 and 4.*) At this time the Dissertation Committee is formally established by the DDR and the Dissertation Committee Chairperson (Chair) is appointed by the DDR.

PHASE III: CONDUCTING THE RESEARCH

In Phase III, the major milestone of the DPP is the completion of the Dissertation under the guidance of the Dissertation Committee and the Chair. In this phase, doctoral candidates implement the approved field research plan and document their findings. During this phase, students utilize their designated course shell on the *Canvas* platform to share their preliminary findings and draft documents with the Committee to solicit feedback and advice.

Step 7. Implementing the Research Plan and Documenting Research Findings

In *DST8110*, doctoral candidates complete the approved field research and collect and analyze data according to the plan set forth in the approved Dissertation Proposal that was completed and approved in the RES course sequence during Phase II. Upon completion of the data collection, analysis and interpretation, doctoral candidates produce the final draft of the dissertation. The primary deliverables in *DST8110* is the completion of Chapter 4 and Chapter 5 after all data has been collected and analyzed as per the Methodology outlined in Chapter 3. Chapter 4 is the Results and Findings Chapter and Chapter 5 is the Implication and Conclusions Chapter. Upon completion of the data collection, analysis and interpretation, doctoral candidates produce the final full draft of the dissertation (Title Page to the Appendices). Students requiring additional time to produce the required class deliverable / deliverables are rerolled until the deliverable is approved.

Step 8. Obtaining Approval to Defend

Doctoral candidates submit a final draft of the full Dissertation Manuscript to the Chair. At this stage, the dissertation document must adhere to the guidelines established by the University including the compliance to APA format requirements for citation and references. (See *Appendices*

B and C.) If deemed ready by the Chair and upon payment of the Dissertation Fee by the student, the MSWord format document undergoes *Quality Review* by the University. Once the document passes *Quality Review*, the final draft of the dissertation is returned to the student and their Chair via the course Dropbox in *Canvas* for final review by the Dissertation Committee and DDR for determination of readiness to defend. If the Dissertation Committee grants Approval to Defend, the Defense is scheduled and the student is enrolled in *DST8130*.

Phase IV: Obtaining Dissertation Approval

The next required milestone of the DPP is the successful oral defense of the dissertation. At the conclusion of the Defense, the Dissertation Committee members vote on final approval of the dissertation.

Step 9. Presenting the Dissertation Findings

While enrolled in *DST8130*, the doctoral candidate presents the findings and interpretations of data analyses at the oral defense with a PowerPoint presentation with the entire committee, DDR, University Leadership, and outside observers. At the Defense, the doctoral candidate responds to questions posed by the Chief Academic Officer, the Dean of Doctoral Research, and Dissertation Committee members; these questions may pertain to any aspect of the dissertation. Faculty, colleagues, students and members of the professional community are invited to attend the Defense; however, only the committee, DDR, and University Leadership may pose questions to the candidate as all others are just observers to the process.

Step 10. Obtaining Final Approval of Dissertation

After the presentation of the findings by the candidate, the Committee votes on final approval of the dissertation. The approval is ratified by the DDR upon signing of the *Certification of University Approval*.

Phase V: Publishing the Dissertation

The final milestone of the DPP is the printing and binding of the dissertation document.

Upon final approval of the dissertation, the student signs the *Certification of Authorship* and the *Limited Copyright Release* form for the University of Fairfax. (See *Appendices N* and *P*.) The student is responsible for purchasing two bound copies of the dissertation; one copy is retained in the University's archives, and one copy is given to the Chair. In addition, an electronic copy of the signed dissertation is retained online in the University's *Dissertation Center* in PDF format. At the time the copies are ordered for the University, the student is provided with detailed instructions for printing and binding of personal copies. The student may order any number of personal copies.

Although publication of derivative articles from the dissertation is not required, it is encouraged. Publication promotes the professional recognition of students and is beneficial to their careers. Doctoral candidates are encouraged to produce derivative articles based on their research and seek publication in scholarly or professional journals.

However, it is likely that these articles may include quotations, pictures, charts, or other materials created by other authors. Thus graduates must determine which creative works have contributed to the expression of ideas that will eventually be incorporated into the published articles. The candidate may, therefore, need to seek copyright permission before borrowing the "expression" of other works, even though these items have been properly cited. The publishers of these articles may provide the graduate with support in obtaining these permissions. Further information on responsibilities of students in complying with ethical, legal or policy requirements of authors and

publishers can be found in Chapter 8, pages 231-236, in the APA Manual, 6th edition.

3. APPROVAL PROCESS

Throughout the *Dissertation Project Plan* (DPP) as depicted in *Figure 2*, students must obtain approvals in order to proceed from one phase to the next. This section describes the nature of each approval and the criteria students must satisfy for each of the major deliverables.

In general, the review of deliverables by advisors or committee members requires at least seven to ten calendar days. Students should plan accordingly, checking each deliverable for adherence to requirements prior to submission, and submitting documents early enough to afford advisors ample time to provide thoughtful feedback. In all cases, documents must be posted to the appropriate course *Dropbox* prior to distribution to the appropriate parties approving the deliverable.

Topic Area Approval

The approval of a research topic area is key to the successful completion of the DPP. The Dean of Doctoral Research (DDR) reviews the *Concept Paper* to evaluate the acceptability of the research topic area.

The Concept Paper is evaluated on the following:

- the availability and accessibility of the proposed research site,
- the feasibility of the study context, and
- the identification of a non-trivial researchable problem associated with an InfoSec domain.

The *Topic Area Approval Checklist* is found in *Appendix F*. Based on this evaluation of the CONCEPT PAPER, the DDR approves the dissertation topic and appoints a Dissertation Committee who will mentor and support the student through the activities of the DPP. Students then proceed with coursework that enables the completion of the five major deliverables of the DPP: the *Dissertation Proposal*, the *IRB Application*, the *CITI Training*, the *Dissertation Manuscript*, and the *Defense*.

Institutional Review Board (IRB) Approval

When the Dissertation Proposal is submitted for review it must contain the instruments or protocols for data collection and a thorough description of the methods used in the data collection process. At the time the Dissertation Proposal is submitted for review, the student must also submit an *IRB Research Application* for approval of the proposed survey instrument or protocol used in collecting qualitative data. (See *Appendix G*.) The Dissertation Chair must sign the *IRB Research Application* and email the entire application packet to the Dean of Doctoral Research (DDR).

The DDR distributes the *IRB Research Application* to the Candidacy Committee for review and approval with the Dissertation Proposal. The proposed research project is classified by the Candidacy Committee during the review as either: exempt, minimal risk, or potential risk. The approval of the IRB must be obtained prior to granting a student permission to conduct research. Upon approval of the IRB, the DDR (as Chair of the Candidacy Committee) completes the *Certification of IRB Approval* and returns it to the student. The *Certification of IRB Approval* must be included as an appendix in the final dissertation. (See *Appendix H*.)

FEASIBILITY STUDY SPECIFICATION (FSS) APPROVAL

The Dissertation Advisor determines when the *Feasibility Study Specification* (FSS) (otherwise known as the Dissertation Proposal, Chapter 1-3, and 4.1) is ready to be submitted to the DDR for review and submits the *FSS Recommendation Checklist* to the course *Dropbox* with the final version of the FSS. Based on this recommendation, the DDR reviews the FSS to approve its readiness for distribution to the Candidacy Committee for approval.

The FSS is evaluated on the following:

- the significance of the research problem,
- the consistency of the proposed solution with the problem identified,
- the thoroughness of the review and synthesis of prior research,
- the accessibility of the proposed research site, and
- the suitability of the approach used in assessing the feasibility of the solution.

The *FSS Recommendation Checklist* follows the same criteria of evaluation as the *FSS Approval Checklist* which is found in *Appendix I*. Based on the evaluation of the FSS (using this form), the Candidacy Committee recommends or defers the granting of candidacy. Doctoral candidacy is granted once approval of the FSS is ratified by the DDR. If approval of the FSS is recommended by the Candidacy Committee and ratified by the DDR, the student is granted approval to conduct research. At this time, the DDR appoints the members of the Dissertation Committee and the Dissertation Chairperson.

Dissertation Approval

There are two major components of dissertation approval as described below:

APPROVAL TO DEFEND

The candidate completes a final draft of the dissertation for submission to the Chair. When the Chair believes that the dissertation is ready to be reviewed by the University and submits the document for Quality Review and the Dissertation Checklist (See *Appendix K & J*.) Once the document meets Quality Review requirements, it is distributed to the entire committee and the DDR for evaluation and determination of readiness to defend. All feedback from Committee Members for the candidate is channeled through the Chair. If the Dissertation Committee grants *Approval to Defend*, the Defense is scheduled.

The criteria for approval to defend are found in the *Defense Approval Checklist*. (See *Appendix L*.) The Dissertation Committee (including the Chair) evaluates the dissertation on the following:

- analysis of the data collected;
- interpretation of findings;
- articulation of the contribution to knowledge;
- analysis of the implications for future research, practice and policy; and
- evaluation of the degree to which research objectives were achieved.

APPROVAL OF THE DISSERTATION

At the Defense, the doctoral candidate responds to questions posed by the Chief Academic Officer, the Dean of Doctoral Research, and Dissertation Committee members; these questions may pertain

to any aspect of the dissertation. Colleagues, students and members of the professional community are invited to attend the Defense. Faculty, colleagues, students and members of the professional community are invited to attend the Defense; however, only the committee, DDR, and University Leadership may pose questions to the candidate as all others are just observers to the process.

The candidate should be prepared to answer at least the following questions:

- What problem has your research addressed?
- What criteria were used in identifying the proposed solution?
- What criteria were used in evaluating the feasibility of your proposed solution?
- How did you perform your research? (i.e., methods)
- What did you learn? (i.e., results, findings)
- What do your findings mean?
- What were the limitations of your research? (i.e., validity, generalizability)
- What did you add to the body of knowledge?
- What are the implications of your research for future researchers, policy makers and practitioners?
- To what extent did you achieve your research objectives?

The Dissertation Committee votes on final approval of the dissertation document immediately following the Defense. A majority vote in favor of approval is required prior to the signatures of the Dissertation Chair and the DDR on the *Certification of University Approval*. (See *Appendix M*.)

4. ROLES AND RESPONSIBILITIES

Doctoral Students/Candidates

To ensure that defensible dissertations are produced, doctoral students must:

- Understand the field research process;
- Seek guidance from faculty and advisors throughout the dissertation process;
- Consult with professional editors and/or statisticians as needed;
- Properly design and implement original research; and
- Present the research results in accordance with University of Fairfax standards.

Although faculty and advisors play key roles in guiding students through the development of the dissertation, ultimately the doctoral student is solely responsible for independently conducting original research, producing a defensible dissertation, and successfully defending it. The dissertation must be produced in accordance with University policy on academic integrity (as outlined in the *Student Handbook*).

It is also the responsibility of the doctoral student to ensure that all deliverables are grammatically and stylistically correct and conform to the University's requirements and the APA format for citations and references. (See *Appendices B and C*.) Advisors are not responsible for editing deliverables, although they may provide feedback to help improve precision and clarity of writing. The doctoral candidate is expected to thoroughly edit each dissertation deliverable to ensure that it

is of publication quality before submission to the appropriate course *Dropbox*.

Doctoral students may choose to utilize the services of a professional editor or may be required by the University to do so. An editor may evaluate and revise dissertation deliverables to ensure that the dissertation communicates the results of the student's research clearly and succinctly. An editor may NOT summarize, paraphrase or create content for inclusion in dissertation documents.

Doctoral students may hire a research assistant to augment their search for articles and materials relevant to their review of literature. Research assistants may help to locate materials; however they may NOT summarize, paraphrase or create content for inclusion in any of the dissertation documents.

A list of approved editors and research assistants may be found in the *Dissertation Center* on *Canvas* under student information center

Dean of Doctoral Research

The Dean of Doctoral Research (DDR) is the final authority with respect to the dissertation approval process. The DDR has oversight responsibility for the operational aspects of the dissertation process, ensuring that the dissertation deliverables meet the quality standards of the University. In this capacity the DDR oversees the dissertation orientation for students, monitors doctoral student progress, coordinates dissertation project plan activities such as the *Concept Paper*, coordinates Candidacy Committee and IRB Reviews, appoints Dissertation Advisors and Committee Chairs, assigns Dissertation Committee Members and serves as a liaison among dissertation advisors, doctoral students and administration. The DDR serves as the subject matter expert for research-related courses and oversees the Director of Doctoral Advising and Dissertation Advisors.

Candidacy Committee/Institutional Review Board (IRB)

The Candidacy Committee is comprised of the DDR and three faculty members appointed by the DDR. This committee reviews and approves the *Feasibility Study Specification* (FSS) based upon the standards identified in *Section 3*. First, the committee evaluates the IRB Research Application, the data collection instrument(s), and the proposed methods to be used in conducting the research study. The purpose of the *IRB* is to protect human subjects involved in research and to ensure that both students and faculty of the University of Fairfax employ appropriate research practices.

At the same time, the Candidacy Committee reviews the FSS and if the proposal is approved, recommends the student for Candidacy, and recommends or defers approval for the candidate to conduct research.

Dissertation Advising Roles

FACULTY ADVISORS

Faculty members are the content experts for their courses and share their practical experience and knowledge with students through frequent interaction via online threaded discussions, email, conference calls and chat rooms. Faculty advisors, who teach Research Methods courses *RM8250*, *RM8500*, *RM9100*, *RM9150* and *RM9200*, introduce students to field research concepts and secondary research skills, including research proposal writing, the requirements of APA format, and the use of qualitative and quantitative tools for data analysis. Faculty advisors who teach *RM9150* and *RM9200* mentor and support students as they identify feasible research topic areas and prepare for the *Dissertation Concept Paper and Defense/Presentation*.

DISSERTATION COMMITTEE MEMBERS

Dissertation Committee Members serve as the primary mentors for doctoral students as they progress through the Dissertation Project Plan. They play a critical role, providing guidance and support to the candidate throughout the dissertation development process, and mentoring each doctoral student individually as the student develops the *Feasibility Study Specification* (FSS) in *RES8110 – RES8130*. The Dean assigns the committee. As noted below, the faculty member teaching the DPP courses will act as the Chairperson for the dissertation phase. However, there may be instances where the Dean will assign some other qualified faculty member to act as the Chairperson.

DISSERTATION COMMITTEE CHAIRPERSON

The Dissertation Committee Chairperson (Chair) is a University of Fairfax faculty member who holds a doctoral degree. During the later phases of the DPP while the student is enrolled in *DST8110 – DST8130*, the Chair serves as a conduit of information to and from the Committee and the candidate. The Chair determines when the dissertation is ready to be submitted for Quality Review and coaches the student when preparing for the oral defense. The Dissertation Advisor who mentored the student through the DPP is typically appointed as the student's Chair.

DISSERTATION COMMITTEE

The Dissertation Committee is comprised of the following members:

- Chairperson
- A minimum of two and a maximum of four additional Committee members

While enrolled in *DST8110 – DST8130*, doctoral candidates continue to work under the guidance of the Chair, with support from the Committee members appointed at the end of Phase I, to execute the research plan, and to complete and defend the dissertation.

5. DISSERTATION PROJECT PLAN DELIVERABLES

This section describes the *Dissertation Project Plan* (DPP) deliverables in greater detail. The DPP is an iterative process that includes two preliminary deliverables and two major deliverables. These deliverables are continually revised during the research process and culminate in the final dissertation document.

An MS-Word compatible template for each of these deliverables is provided to students in their individual course shell as well as the *Dissertation Center*. Students are required to utilize these templates in producing the deliverables to ensure that they conform to content and format requirements.

Preliminary Dissertation Deliverables

THE RESEARCH PROJECT FEASIBILITY ANALYSIS

The Concept Paper describes the context of the study, the problems affecting or being affected by the research site community, potential solutions that can be used to address the problems, and a selection of the most researchable (non-trivial, feasible) problem. This document is developed while the doctoral student is enrolled in *RM9150* and *RM9200*, and presented to the instructor and the DDR in week 8 of *RM9200*.

DOCUMENTATION OF RESEARCH SITE APPROVAL

Students are required to obtain written approval from an authorized representative of the

participating research site. This documentation consists of both the written request from the student to the research site and the written approval from the research site. This documentation must be included as an appendix in both the FSS (proposal) and the final dissertation.

MAJOR DISSERTATION DELIVERABLES

FEASIBILITY STUDY SPECIFICATION (FSS)—Dissertation Proposal

The *Feasibility Study Specification* (FSS) consists of the first draft of Chapter 1 through Chapter 4.1 of the dissertation, along with a Working Bibliography. (See *Appendix E*.) The FSS describes the proposed research project by answering the following questions:

- What is to be investigated? (problem)
- Why the research is important? (rationale)
- What is already known about the topic? (a preliminary review of research literature)
- What is the intent of the study? (research objective)
- Where will the research be conducted? (context of study)
- What will be tested? (proposed solution and criteria)
- How is the research to be conducted? (research design)
- How will data be collected? (data collection plan and instruments)
- How will data be analyzed? (methods of data analysis)

The chapter headings for required components of this deliverable are:

- Chapter 1: Rationale
- Chapter 2: Research Review and Synthesis
- Chapter 3: Methodology (through 3.4 only)
- Chapter 4: Results and Findings (4.1 only)
- Appendix A: Definition of Terms
- Appendix B: Documentation of Research Site Approval
- Appendix C: Instrument(s) Utilized
- Working Bibliography

DISSERTATION

The *Dissertation* is the culmination of the work and analysis that have been completed by the student. It is comprised of the final versions of all chapters and the cited references. Written in the past tense, the dissertation answers the following additional questions:

- What did the data show? (results of analysis)
- What did the data mean? (interpretations)
- What were most significant discoveries? (findings)
- What was learned from the research? (contribution to knowledge)
- How can this knowledge be furthered? (implications for future research)

- How can this knowledge be applied? (implications for practitioners and policy-makers)

The chapter headings for required components of this deliverable are:

- Abstract
- Chapter 1: Rationale
- Chapter 2: Research Review and Synthesis
- Chapter 3: Methodology
- Chapter 4: Results and Findings
- Chapter 5: Implications and Conclusions
- Appendix A: Definition of Terms
- Appendix B: Documentation of Research Site Approval
- Appendix C: Instrument(s) Utilized
- Appendix D: IRB Certification of Approval
- Reference List
- Biography

6. MAJOR DELIVERABLE CHAPTER DESCRIPTIONS

This section describes the chapter structure and content requirements of the dissertation deliverables. The organization of each chapter (Headings, subheadings and sub-subheadings) for each of the major deliverables is available as a part of the Dissertation Template. Please refer to the Template for all section information. The following list provides general background on each major section:

Abstract:

The abstract is a summary of the research conducted and should contain a:

- statement of the business problem and why it is significant;
- a brief description of the solution assessed and its applicability to the problem;
- succinct description of methods and procedures used; and
- brief summary of results, data analysis interpretations, findings and conclusions.

The abstract is intended for publication in Dissertation Abstracts International and is therefore limited to 350 words or less (approximately 2400 characters excluding title and names).

Chapter 1: Rationale

This chapter introduces the topic and provides the rationale for the research. It includes:

- background information and substantiation of the significance of the business problem;
- a clear and compelling problem that needs to be addressed;
- a description of the solution assessed and its applicability to the problem;
- the need to gain additional knowledge from further research;

- a description of the research objective(s); and
- a statement of the research question(s) guiding the study.

Chapter 2: Research Review and Synthesis

This chapter provides a review and synthesis of the existing research literature, clearly describing the current state of knowledge about the problem and the research question, by including the following:

- a review of previous problem resolution attempts that serve as a foundation for the study;
- an analysis of prior solutions and the results of those studies;
- an examination of criteria used in selecting a solution; and
- an articulation of the justification for the selected solution derived from the literature cited.

Chapter 3: Methodology

This chapter provides a description of the research design and methodology. It includes the following for all of the deliverables (FSS and Dissertation):

- a summary description of the proposed solution derived from the synthesis of the research literature review;
- the feasibility assessment criteria;
- a description of the context of the study including setting, study population, sample frame and selection; and
- a description of the data collection instrument(s) or protocols to be utilized.

In the *Dissertation*, this chapter is written in the past tense and is revised to describe the processes utilized in the execution of the research. It will also include:

- a discussion of the methodological limitations of the study.

Chapter 4: Results and Findings

In the *Feasibility Design Specification* this chapter includes a description of the methods of data analysis that are planned.

Then, in the *Dissertation*, this chapter is revised to summarize the analysis performed, and includes:

- a report of the results and interpretation of data analysis; and
- a summary of the primary findings of the analysis.

Chapter 5: Implications and Conclusions

This concluding chapter of the *Dissertation* answers the "So what?" questions about the research and contains descriptions of the:

- contribution to knowledge made by the research;
- implications for practitioners and policy-makers in the field;

- implications for future research;
- conclusions that are derived from the results of the study; and
- an assessment of the extent to which the research objective(s) was/were achieved.

Appendices

An appendix is used to present material that supplements the text or may be of interest to readers but is too detailed or distracting for inclusion in the main body of the text. Surveys, evaluation instruments, original data, mathematical tables, computer printouts, and data collection forms are examples of materials that are most appropriately included in appendices. Material in the appendices should help the reader replicate, assess, or understand the research that was conducted.

The *Feasibility Study Specification* must have the following appendices:

- A. Definitions of Terms
- B. Documentation of Research Site Approval
- C. Instrument(s) Utilized

The *Dissertation*: See the Dissertation Template for allowable material in the Appendices

Working Bibliography

The *Feasibility Study Specification* (FSS) contains an evolving *Working Bibliography* (WB) which includes the references that support:

- background research;
- research question;
- selected solution;
- definitions of the criteria used in assessment; and
- research design.

Referenced sources are listed using the APA citation format and can include, but are not limited to: journal articles, books, white papers, government documents, and other dissertations. (See *Appendices C and E*.)

Each reference in the WB must be accompanied by an annotation which is a short summary and synthesis of the content of the referenced source. The WB should demonstrate that an exhaustive review of the relevant research literature was conducted. However, all of these sources may not be cited within the body of the FSS. The WB must include a minimum of 25 annotated sources for the FSS.

Reference List

In the *Dissertation*, the *Reference List* replaces the WB and contains only the citations of the sources referenced in the narrative, without the annotations. The reference citations must conform to APA requirements. Examples of APA format requirements for the *Reference List* are provided in *Appendix C*.

APPENDICES

Appendix A. The Common Body of Knowledge (CBK) in Information Security

The following table identifies the 8 domains of the CBK in Information Security as defined by (ISC)². Research topics for dissertations relate to one or more of these domains.

Security and Risk Management
Asset Security
Security Engineering
Communications and Network Security
Identity and Access Management
Security Assessment and Testing
Security Operations
Software Development Security

Appendix B. Format Requirements for Dissertation Deliverables

A MS-Word template is provided in the *Dissertation Center* for all dissertation deliverables. Note that the Dissertation Template must be used for the full dissertation proposal and the final dissertation manuscript. Other templates may be used, but the proposal and final manuscript **MUST** be in the official template. All in- text and reference list citations must conform to APA requirements, as per the APA Publication manual and Dissertation Template. (See *Appendix C.*)

Format Requirements

The dissertation deliverables must meet the following style and format requirements. Please note that the following are guidelines. The Dissertation Template applies many of these guidelines. You are responsible to know the APA Publication Manual and the Dissertation Template formatting:

- **Margins:** On every page, minimum clear margins of 1 inch for right, top, and bottom margins and 1.5 inches for left margin.
 - **Page Numbers:** Page numbers should be centered below the text within the footer, except where not possible, and must be printed so that the margins remain clear on every page.
 - **Font Size and Style:** Font style for all text in the dissertation body must be 12-point Times New Roman. Figures and tables may be 10-point font and/or single-spaced. The appendices do not have a font size or spacing requirement, although readability should be considered.
 - **Headings:** It is preferred that dissertations use no more than three levels of headings in the body text. All headings should have only the first letter of each word capitalized (title case) with the exception of non-major words shorter than four letters. Headings adhere to the following. All headings are signified in the Dissertation Template and should be used
 - **Paragraphs:** All paragraph text in the dissertation body must be double spaced, using .5 inch indents for the first line.
 - **Numbered or Bulleted Lists:** All items in lists must be indented .5 inch from the left margin and must be single-spaced. You must follow the APA guidance on appropriate use of bulleted or numbered lists. **Bullets may be numbers, letters or simple bullets only—NO fancy or non-traditional bullet symbols of any kind is allowed.**
-
- **Block Quotes:** Quotes of 40 words or more are considered block quotes and must be indented .5 inch from the left margin and must be single-spaced. Quotation marks are not used for these quotes. Citations must follow the APA citation requirements.
 - **Figures:** Figures which are discussed in the dissertation may appear within the text page or on a separate page following the beginning or ending of the discussion. If the figure is placed within the text page, there must be four lines separating it from preceding and following text. Titles of figures appear below the figure. Figures are numbered in sequential order. Titles of figures are formatted in sentence case and conclude with a period.
 - **Tables:** Tables that are discussed in the dissertation may appear within the text page or on a separate page following the beginning or ending of the discussion. If the table is placed within the text page, there must be four lines separating it from preceding and

following text. Titles of the tables appear above the table. Tables are numbered in sequential order. Titles of tables are in italics and formatted in title case (major words are capitalized).

- **All tables, graphics, figures, charts, and diagrams must be recreated by the learner; otherwise, the learner must obtain formal, written permission of the original author granting explicit permission to use the table, graphic, figure, chart, diagram (or the like).**
- **Reference List:** The citations in the Reference List use .5 inch hanging indents. References are single-spaced within the citation and double-spaced between citations. Citation format must follow requirements set by the APA Publication Manual, 6th Edition (pp.215-281)

Again, the above are guidelines. Use the APA Publication Manual and Dissertation Template, as they are the final authority on formatting your dissertation proposal and final manuscript.

Structure and Sequence Requirements

The dissertation is written in past tense. The dissertation document must conform to the following structure and sequence. The Dissertation Template has these requirements already included:

- **Cover page: Required.** This is the Certification of Authorship signed by the student. It has no page number. A sample is provided in *Appendix N*.
- **Title page: Required.** This is page i, but the page number is not printed. A sample of this page is provided in templates found in the *Dissertation Center* and in the student's individual course shell on *Canvas*
- **Copyright Statement: Required.** This statement is provided in *Appendix O*. This is page ii, but the page number is not printed.
- **Approval page: Required.** This is the Certification of University Approval. It is page iii, but the page number is not printed. A sample is provided in *Appendix M*.
- **Abstract: Required.** This is one or two pages, page iv or pages iv and v, but the page number(s) is (are) not printed. The abstract is no more than 350 words and formatted without paragraph indentation. Paragraphs are double spaced and separated by a single blank line.
- **Dedication: Optional.** This is page v or vi, but the page number is not printed. This page is single spaced and formatted without paragraph indentation. Paragraphs are separated by a single blank line. If included, should not be listed in the Table of Contents and should be no more than one page in length.
- **Acknowledgements: Optional.** This is page vi or vii, but the page number is not printed. This page is single spaced and formatted without paragraph indentation. Paragraphs are separated by a single blank line.
- **Table of Contents: Required.** Continue to number this page with lower case Roman numerals, in sequence, and print the page number, centered at the bottom of the page(s).
- **List of Tables: As needed.** Continue to number this page with lower case Roman

numerals, in sequence, and print the page number, centered at the bottom of the page(s). This page is required if the dissertation contains any tables; it must be listed in the Table of Contents.

- **List of Figures:** *As needed.* Continue to number this page with lower case Roman numerals, in sequence, and print the page number, centered at the bottom of the page(s). This page is required if the dissertation contains any figures; it must be listed in the Table of Contents.
- **Chapters:** *Required.* Beginning with Chapter 1, all pages are numbered consecutively in Arabic numerals (1, 2, 3, etc.); although every page is counted, the page numbers are not required to appear on the first page of each chapter, on the first page of the reference list, or on the first page of each appendix. The numbers, in sequence, are centered at the bottom of the page(s). Each chapter or major section must begin on a new page and are numbered consecutively from the previous chapter.
- **Separator Page prior to Appendix A:** *Required.* This page is labeled “APPENDICES”. Continue to number, in sequence, but the page number is not printed.
- **Appendices:** *Required.* Appendices must be labeled A, B, C, etc. Each Appendix must begin on a new page. Continue to number this page with Arabic numerals, in sequence, and print the page number, centered at the bottom of the page(s).
- **Reference List:** *Required.* Continue to number this page with Arabic numerals, in sequence, and print the page number, centered at the bottom of the page(s).
- **Biography:** *Required.* Continue to number this page with Arabic numerals, in sequence, and print the page number, centered at the bottom of the page(s). This page is single spaced and formatted without paragraph indentation. Paragraphs are separated by a single blank line. The biography is no more than one page in length.

Content Agreement Requirements

- **Author Name:** The candidate's name and degree must be consistent on all pages where it is displayed.
- **Dissertation Title:** The title on the title page, approval page and on the first page of the abstract must match exactly, including punctuation; however, the title on the title page and approval page is printed using the font-style “Small Caps”, while the title on the first page of the abstract is printed in upper and lower-case (title case).
- **Chapter Titles:** Chapter titles in the text and in the Table of Contents must match and must conform to the following:

Chapter 1: Rationale

Chapter 2: Research Review and Synthesis

Chapter 3: Methodology

Chapter 4: Results and Findings

Chapter 5: Implications and Conclusions

- **Appendices:** The titles of appendices must be consistent with titles in the text and in the Table of Contents.

Appendix C. Dissertation Writing Tips

- Remember that quality, not quantity, is the key factor in writing.
- Use topic outlines to help identify a flow of ideas that are clear and build upon each other. (See Table 2.)
- Create a logical flowchart of your dissertation.
- Approach writing the dissertation as an iterative process.
- Proofread all work! Spell-check it. Run it through a grammar tool, but do not rely solely on spelling and grammar tools.
- Avoid overly general statements unless followed by clarifying statements or supporting evidence.
- Support statements with citations from appropriate research literature. Always properly cite the works of others using the APA format.
- Use only the third person. For example, use “The Researcher” rather than “I”
- Contractions do not belong in formal writing.
- Use appropriate diction. For example, use “received” rather than “got”, “difficulty” or “challenge” rather than “problem”, etc.
- Avoid needless intensifiers. For example, “very unique”– either it is unique or it is not.
- Watch for split infinitives. For example, avoid phrases such as: “to merely serve”, “to formally advocate”, or “to fully answer”, instead, use: “merely to serve”, “to advocate formally”, and “to answer fully”.
- Being precise in your choice of words is critical for clarity.
- Colloquialisms are inappropriate in formal writing.
- Opinions are irrelevant. However, the facts established by prior research are relevant.
- All proposals are written in the future tense; dissertations -- which document prior work -
- are written in the past tense.
- Utilize a qualified editor to read your work critically.

Checklist for Revising Paragraphs:

- Is the paragraph unified?
- Does it adhere to one general idea that is either stated in a topic sentence or otherwise apparent?
- Is the paragraph coherent?
- Do the sentences follow a clear sequence?
- Are the sentences linked as needed by parallelism, repetition or restatement, pronouns, consistency and transitional expressions?
- Is the paragraph developed?
- Is the general idea of the paragraph well supported with specific evidence such as details,

facts, examples, and reasons?

Checklist for Editing:

Clarity: How well do words and sentences convey their intended meanings? Which words and sentences are confusing?

- Exact language
- Parallelism
- Clear modifiers
- Clear reference of pronouns
- Complete sentences

Effectiveness: How well do words and sentences engage and direct readers' attention? Where does writing seem wordy, choppy or dull?

- Smooth and informative transitions
- Variety in sentence length and structure
- Concise sentences

Correctness: How little or how much do surface errors interfere with clarity and effectiveness?

- Spelling
- Verb forms and tenses
- Subject verb agreement
- Sentence fragments, comma splices

Appendix D. Bibliographic References

What is a Working Bibliography?

A working bibliography is a compilation of annotated bibliographic references that provide advisors and committee members with a summary of articles on which the research is based, so that they may understand the content and context of the work. The working bibliography is developed in the FSS and contains a list of every pertinent work that has been personally reviewed by the student. It is not necessary that each item is actually referenced in the final dissertation bibliography. For a dissertation, it is not unreasonable to have a working bibliography that contains over 100 sources. A minimum of 20 to 25 of these should have a direct relationship with the dissertation topic and should have been read thoroughly by the student.

What is an Annotated Bibliographic Reference?

An annotated bibliographic reference is necessary for organizing notes when reading and reviewing sources of information for the dissertation. An example of such an annotated reference is as follows:

Klimoski, R., & Palmer, S. (1993). The ADA and the hiring process in organizations. *Consulting Psychology Journal: Practice and Research*, 45(2), 10 – 36.

In this article the researchers explored the impact of the ADA requirements on the hiring process in organizations. Klimoski and Palmer (1993) conducted a study of six organizations and compared the effects of the ADA requirements on the length of time it took to hire a new employee.

The format of the annotated bibliography should contain the following:

Source Citation

The annotated bibliography begins with a citation based on the APA format for references as indicated in the APA Manual, 6th edition. Note that citations vary based on the source (e.g., journal article or book). If the document used was an electronic version of the document, the DOI (Digital Object Identifier) must be included. If no DOI is available, the URL from which the document was retrieved must be provided.

Annotation

The annotation is placed below the citation with no indent and should be cross-referenced with one or more specific chapters of the dissertation. Annotations are single spaced with double spacing between paragraphs. Annotations are summaries of the references written in the students' own words and not computer generated abstracts.

In writing the annotation, the student analyzes the source material, summarizes the main points of the reference. Paraphrasing of the author's words may be done without quotes, and when included within the body of your deliverable, must be appropriately cited using the APA parenthetical format of (Author, Date). Direct quotes taken from the source within the

annotation should be enclosed in quotes and must be properly cited using the APA format in parentheses (Author, Date, Page).

Each of the references contributes to one or more of the following dissertation elements and its relevance should be considered and noted within the annotation:

- Background data/research
- The research question
- The measurement methods for each variable: independent, dependent, parameters
- The analysis design
- The results

What is the Reference List Section in the Dissertation?

In the Dissertation, the bibliography is called the “Reference List”. It is based on the Working Bibliography but differs from it, in that the Reference List contains only the citations of sources (without annotations) referenced in the narrative of the dissertation.

Appendix E. Topic Approval Checklist



University of Fairfax
2070 Chain Bridge Road
Suite G-100
Vienna, VA 22182

Topic Approval Checklist

Student Name: _____

Criteria	Part(s)	Exceptional	Acceptable	Unacceptable	Suggestions for Improvements
How well does the student clearly and concisely describe the research site: name, location, environment, gatekeeper?	1.1				
How well does the student describe the target population and the characteristics of the population?	1.2				
How well does the student describe the sample frame that is represented by the research site?	1.3				
How well does the student describe the sample, estimate the size of the sample, and express the rationale for the sample selection?	1.4				
How well does the student describe constraints and limitations of the setting?	1.5				
How well does the student describe the research site access plan: approvals required; factors affecting access; identification of mentors/advocates; actions needed to maximize response rate?	1.6				
How well does the student identify potential problems that can be researched at the proposed research site?	2.1				
How well has the student presented of the importance of these problems to the cybersecurity community?	2.2				
How well does the student link potential solutions to the problems experienced at the research site?	2.3				
How well does the student identify research questions that will guide the feasibility study?	2.4				
How well does the student articulate the problem statement to be addressed by the study?	3.1				
How well does the student present the proposed study: solution to be tested; objective of research; potential benefits, and potential contribution to knowledge?	3.2				
Overall Recommendation					

I hereby attest that I have reviewed the submitted Research Project Feasibility Analysis (RPFA) Report and have assessed the level of acceptability of the topic based on the standards for academic quality established by the University of Fairfax.
The student (____) has/____ has not) identified a researchable dissertation topic.
The student (____) is/____ is not) ready for assignment of a Dissertation Advisor.

Signature of Dean of Doctoral Research _____

Date _____

Appendix F. IRB Research Application



IRB RESEARCH APPLICATION

Name: _____

Date: _____

Title of Study: _____

1. Is this dissertation research? ____ yes ____ no
2. Estimated date of data collection: From _____ To _____
3. Has a previous Institutional Review Board reviewed this study? ____ yes ____ no
4. The following will be utilized as part of the research project (check all that apply):

- ☐ Questionnaires / Surveys
- ☐ Interviews
- ☐ Production Audio and / visual recordings
- ☐ Online data collection
- ☐ Other _____

5. Who will have access to the data? _____

6. Will individual subjects be identified in the final report? ____ yes ____ no

7. Will data be reported only in aggregate form? ____ yes ____ no

If no, explain how the data will be reported

Please provide a detailed summary of the methodology that will be used (a fully completed, reviewed, and chair-approved chapter 3) and all research questions, hypotheses, datasets information, full interview protocols, full survey instruments, etc. Your Chair will review this application before it is submitted to the DDR to ensure that is fully completed and contains all necessary supporting materials in the proper, level of detail. Incomplete applications will not be accepted. Student may NOT collect any data until after they have secured formal IRB approval.

I hereby attest that I have reviewed the submitted documentation and have assessed the level of acceptability of the protocols based upon the standards for academic quality established by the University of Fairfax.

Signature of Chair

Date

Appendix G. Certification of IRB Approval



CERTIFICATION OF IRB APPROVAL

Candidate's Name: _____

Date Submitted: _____

Program (DIA, PhD-CS/E, DSD, DBA, etc): _____

Title of Study:

Date of Review: _____

Classification of Research: ___Exempt ___Minimal Risk ___Potential Risk

Approval Status:

- ☐ Approved as Submitted
- ☐ Approved, subject to the following conditions:

- ☐ Denied, for the following reasons:

This certifies that the research study submitted has been reviewed by the Institutional Review Board.

Chair, Institutional Review Board Committee (Signature)

Date

Appendix H. FSS/IRB Approval Checklist



University of Fairfax
3070 Cham Bridge Road
Suite G-100
Vienna, VA 22182

FSS / IRB Approval Checklist

Student Name: _____
Reviewed by: _____

Document Review

Review each criterion and rate: Exceptional (E), Acceptable (A), Unacceptable (U).
Items that are considered essential are noted with Ⓢ before the criterion statement. Please provide summary suggestions for improvements where applicable.

Chapter	Criteria	E	A	U	Suggestions for Improvements
Chapter 1: Rationale					
1.1 Introduction					
	Ⓢ The student provides a clear and concise description of the origin of the problem and the environmental context				
	Ⓢ The student has clearly described the relationship of the problem to the LA/IS domain.				
	Ⓢ The student has clearly identified the meaningfulness of the problem to cybersecurity practitioners.				
	The student has provided examples of the problem from relevant literature.				
	The student has given a clear and concise description of the organization and stakeholders affected by the problem.				
	The student has provided a clear description or introduction to the research site.				
1.2 Problem Statement					
	Ⓢ The student has provided a clear, concise and unambiguous statement of the problem that follows logically from Section 1.1				
	Ⓢ The student has provided relevant supporting references from the literature				
1.3 Proposed Solution					
	Ⓢ The student has provided a clear and concise description of the proposed solution to the problem.				
	Ⓢ The student has provided a clear and concise rationale for the selection of the proposed solution.				
	Ⓢ The student has clearly described the relationship between the problem and the solution.				
	Ⓢ The student has provided support for the solution or its approach through examples from relevant literature				

Chapter	Criteria	E	A	U	Suggestions for Improvements
1.4	Need for Research				
	<ul style="list-style-type: none"> The student has explained how and why the problem affects the research site. (addressing the "So What/Who Cares" question) The student has explained how and why the proposed solution resolves or mitigates the problem for the research site. The student has described what alternative solutions or approaches are available The student has explained what application (if any) the solution might have outside the research site. The student has discussed how the problem and solution apply to environments outside the research site. (extent of the problem) 				
1.5	Feasibility Study Objective				
	<ul style="list-style-type: none"> The student has developed a clear and logical path from Sections 1.1 through 1.3 to show a solid understanding of the intent of the study. The student has explained the "success measures" of the study. 				
1.6	Feasibility Study Research Questions				
	<ul style="list-style-type: none"> The research questions flowed logically from the problem statement to the proposed solution. The research questions reflected the interests of the affected stakeholders. The research questions added to the body of knowledge in the domain. 				
	<ul style="list-style-type: none"> The feasibility of the research site (relevance to the problem and solution), access to the site, and its capacity to adopt or implement the solution were clearly defined and supported. 				
	The research questions make sense in the context of Section 1.4.				
Chapter 2: Review and Synthesis of Prior Research					
2.1	Background				
	The student provided evidence that a thorough search, analysis, assessment, integration and synthesis of the literature relevant to the study has been performed by:				
	<ul style="list-style-type: none"> Demonstrating a thorough understanding of the literature pertinent to the domain of the problem. Demonstrating an appreciation of how to apply findings from the literature to the feasibility study. Presenting compelling evidence of the conclusions of the review. 				

Chapter	Criteria	E	A	U	Suggestions for Improvements
	<ul style="list-style-type: none"> Providing clear support from literature sources for the goals and objectives set forth in Chapter 1. Providing evidence that a comprehensive search of relevant scholarly and practitioner literature sources has been done across media outlets. Clearly identifying all pertinent connections between literature sources and study design decisions. 				
	<ul style="list-style-type: none"> Providing a clear rationale for limitations if a limited set of literature sources have been chosen as a foundation for the study. Documenting the strategy used in the overall literature search process. 				
2.2 Review of Previous Problem Resolution Attempts					
	<ul style="list-style-type: none"> The student has provided a complete and thorough discussion of the problem, its environment, its genesis, its evolution and its current state. 				
	The student has provided a thorough discussion of what others have done in addressing this problem.				
2.3 Analysis of Prior Solutions					
	<ul style="list-style-type: none"> The student has provided a thorough discussion of the feasibility of alternative solutions to the problem. 				
2.4 Criteria for Solution Selection					
	<ul style="list-style-type: none"> The student has provided a clear and concise discussion of the rationale for the proposed solution. 				
	<ul style="list-style-type: none"> The student has provided a clear measurable definition of each study variable (criterion). 				
	<ul style="list-style-type: none"> The student has provided a clear and concise discussion of the definition of what constitutes success for the study. 				
2.5 Solution Options to Consider					
	<ul style="list-style-type: none"> The student has summarized Sections 2.3 and 2.4 without introducing any solutions that have not been previously discussed. 				
	The student has provided substantiation of any claims made in this section.				
2.6 Justification for Selected Solution					
	<ul style="list-style-type: none"> The student has explained the logic behind the selection of the proposed solution. 				
	<ul style="list-style-type: none"> The student has explained the "worthiness" of the selected solution. 				

Chapter	Criteria	E	A	U	Suggestions for Improvements
Chapter 3. Methodology					
3.1 Summary of Proposed Solution					
	☐ The student has provided a short summary of the problem and how the proposed solution will help the affected population.				
3.2 Feasibility Assessment Criteria					
	☐ The student has demonstrated that the criteria to be used is evidence-based (comes from the literature).				
	☐ The student has demonstrated that the criteria to be used is appropriate for determining the suitability of the solution with respect to the problem.				
	☐ The student has explained how the criteria will determine the extent to which the solution is appropriate, adoptable, and can be implemented.				
	☐ The student has identified what criteria will be used to measure how the proposed solution resolves or mitigates the problem.				
	☐ The student has identified what criteria will be used to measure how the proposed solution might be adopted or implemented.				
	☐ The student has shown how the criteria and their measurement serve to answer the research question.				
	☐ The student has shown how the criteria map to the research question.				
	☐ The student has explained how the criteria make sense given the problem, solution, and stakeholders.				
3.3 Context of Study					
	☐ The student has demonstrated an understanding of the concepts of samples and populations in the context of the study.				
	☐ The student has described a viable plan for accessing the research site.				
	☐ The student has described how the population/sample offers something new or unique				
3.4 Data Collection Plan					
	☐ The student describes an approach to collecting data and measuring criteria that is consistent with the methods described in Sections 3.2 and 3.3.				
	☐ The student has identified criteria that are appropriate and measurable.				
	☐ The student has identified or produced data collection instruments that effectively capture the data in accordance with Section 3.4.1.				

Chapter	Criteria	E	A	U	Suggestions for Improvements
Chapter 4. Results and Findings					
4.1 Methods of Data Analysis					
	☛ The student has identified data analysis methods that follow logically from the research methodology described in Chapter 3				
	☛ The student has identified data analysis methods that conform to accepted statistical practices given the levels of measurement and samples obtained.				
	The student has demonstrated an understanding of the data analysis methods selected.				
	Overall Recommendation				

Appendices

Appendix	Criteria	Y	N	Required Actions
A	Student has clearly defined terms, acronyms or symbols used within the document.			
B	Student has documentation authorizing access to the research site.			
C	Student has included instruments used in the study.			

Recommendation:

I hereby attest that I have reviewed the submitted *Feasibility Study Specification* (FSS) and have assessed the level of acceptability of the content based on the standards for academic quality established by the University of Fairfax. I recommend the document should be:

- ☐ Approved, as submitted.
☐ Approved, subject to the following conditions:

☐ Denied, for the following reasons:
☐ Further I recommend the following action be taken:
☐ The student should be granted Candidacy status.

Signature of Candidacy Committee Member

Date

IRB Review

The IRB review is to assure that the rights of the human subjects of the study are protected and the study works within ethical boundaries.

Criteria	Y	N	Required Actions
Does the study involve participants who are members of special or vulnerable populations (children, prisoners, etc.)?			
Is proper informed consent obtained from all participants of the study?			
Are the participants placed at unreasonable, physical, mental or emotional risk as a result of the research?			
Is the researcher taking adequate measures to protect the privacy of personal information collected during the study?			
Does the research approach meet scientific, ethical, and regulatory expectations?			

I have reviewed the IRB Research Application and recommend the following classification be assigned to this study:

☐ Exempt ☐ Minimal Risk ☐ Potential Risk

Recommendation:

I hereby attest that I have reviewed the submitted *IRB Research Application* and have assessed the level of acceptability of the content based on the standards for ethical and subject safety established by the University of Fairfax. I recommend the study should be:

☐ Approved, as submitted.
☐ Approved, subject to the following conditions:

☐ Denied, for the following reasons:

☐ The student should be granted approval to conduct research.

Further I recommend the following action be taken:

☐ The student should be granted approval to conduct research.

Signature of Candidacy Committee Member

Date

Appendix I. Dissertation Manuscript Content Checklist

All sections and components must be present *in the exact order listed* for the candidate to move forward in the process. Manuscripts not adhering to this checklist will not be eligible for defense until the missing components are addressed.

CHAPTER 1: INTRODUCTION Chapter 1 averages 20 - 30 total pages	YES OR NO
INTRODUCTORY PARAGRAPH(S) Average of ½ - ¾ page No subtitle is given to this section. 2 required parts	
1. Dissertation topic is introduced.	
2. Discussion reflects an overview of what is contained in the chapter.	
BACKGROUND Average of 2 ½ pages	
Discussion reflects why the research problem is of important social concern or theoretical interest.	
PROBLEM STATEMENT Average of ½ - ¾ page 5 required parts	
1. General problem/observation identifying the need for the study.	
2. Specific problem proposed for research; problem statement is clear, concise, and reflective of the purpose statement.	
3. Introductory words describing method and research design are given and are appropriate to the problem.	
4. General population group of proposed study is identified.	
5. Needs to identify a gap or gaps in the literature	
PURPOSE Average of ¾ page 7 required parts	
1. Research method is identified as qualitative, quantitative, or mixed.	
2. Research method is appropriate to the proposed study.	
3. Research design is clearly stated.	
4. Research design is appropriate to the research method.	
5. Research variables are briefly identified: independent, dependent, relationships, comparisons.	
6. Specific population group of proposed study is identified.	
7. Geographic location of study is identified.	

SIGNIFICANCE OF THE STUDY Average of 1 page 2 Required Parts The significance sections explain why the study is a unique approach to the problem to be investigated, potential benefit/benefactors from the proposed study, and the ways in which the study results might make an original contribution to the field.	
1. Significance of Study: Why is this study important? What is the contribution this research may make to current and future studies and thought? ½ page	
2. Significance of Study to the field of leadership: In what way could the results of this research add to leadership knowledge and literature? ½ page	
NATURE OF THE STUDY Average of 1 to 5 pages 2 required parts Synopsis of the research design. Discussion of what distinguishes the learner's proposal research design from other possible research designs.	
1. Overview discussion of research method (quantitative, qualitative, or mixed) appropriateness. Discussion reflects how the proposed research method will accomplish the researcher's goals in comparison to the other methods.	
2. Overview discussion of proposed research design appropriateness. Discussion of how the proposed design will accomplish the researcher's goals for the study.	
HYPOTHESES/RESEARCH QUESTIONS Average of 1 to 5 pages 3 required parts	
1. Description of the relationship or comparison questions posed about the research focus.	
2. Qualitative methods: Proposed research questions must be included in discussion. Quantitative methods: Research questions must be included in discussion, and depending on the kind of research design, these questions may include proposed hypothesis(es) and the rationale for the hypothesis(es).	
3. Information is presented in a discussion context, rather than simply stated or listed.	
CONCEPTUAL OR THEORETICAL FRAMEWORK Average of 2-4 pages 4 required parts Places the study in perspective among other relevant studies and describes the important issues, perspectives, and controversies in the field under investigation.	
1. Discussion reflects overview of the broad theoretical area under which the research falls.	
2. Discussion reflects overview of how proposed research fits within other research in the field.	
3. Discussion specifically includes important issues, perspectives, and controversies in the field.	
4. Discussion reflects knowledge and familiarity with the historical, germinal, and current literature in the field.	
DEFINITIONS Average of 0 to 1 page Required if any operational terms or words are used in a unique way in this study. 2 required parts if included	

1. Definitions given represent operational terms or words used in a unique way; discussion clarifies uniqueness.	
2. Definitions are supported with citations.	
ASSUMPTIONS Average of ¼ to 2 pages 2 required parts	
1. Assumptions are identified.	
2. Rationale for each assumption is given, incorporating multiple perspectives, when appropriate.	
SCOPE, LIMITATIONS, AND DELIMITATIONS Average of 1 to 2 pages 3 required parts	
1. Scope, limitations, and delimitations of data used in the study are discussed.	
2. Generalizability of the study findings is discussed.	
3. Information is presented in a discussion context, rather than simply stated or listed.	
CHAPTER SUMMARY Average of ½ to 1 page 4 required parts	
1. Discussion <i>summarizes key points</i> presented in chapter 1.	
2. Supporting citations are given for key points.	
3. Chapter summary ends with transition discussion/sentence to next chapter.	
4. Information is presented in a discussion context, rather than simply stated or listed.	

<p>CHAPTER 2: LITERATURE REVIEW</p> <p>Chapter 2 averages 40-60 pages</p> <p><i>Must be a critical analysis and interwoven discussion NOT an annotated bibliography strung together.</i></p>	<p>YES OR NO</p>
<p>INTRODUCTORY PARAGRAPH(S) Average of ½ - ¾ page</p> <p>No subtitle is given to this section.</p> <p>2 required parts</p>	
<p>1. Discussion begins with dissertation topic transition to introduction of a review of the literature for the dissertation research.</p>	
<p>2. Discussion reflects brief overview of what is contained in the chapter.</p>	
<p>SECTION TOPICS INCLUDE:</p> <p>TITLE SEARCHES, ARTICLES, RESEARCH DOCUMENTS, JOURNALS RESEARCHED;</p> <p>HISTORICAL OVERVIEW; AND CURRENT FINDINGS</p> <p>7 required parts</p>	
<p>1. Organization is presented in an orderly, logical, and flowing manner.</p>	
<p>2. Historical overview with appropriate citations is presented. If appropriate, a discussion of any gaps in the research literature is included. Discussion of germinal research is included.</p>	
<p>3. Current findings and studies with appropriate citations are presented. If appropriate, a discussion of any gaps in the research literature is included.</p>	
<p>4. Current findings, discussed in order from general to specific, are related to the research question.</p>	
<p>5. Each research variable is discussed.</p>	
<p>6. Discussion has depth and presents an analysis of the literature rather than a listing of quotations and citations. Discussion relates a logical understanding of why a reference is included.</p>	
<p>7. Balanced discussion of alternative viewpoints is given. The literature compares and contrasts different points of view regarding research in the field.</p>	
<p>CHAPTER CONCLUSION Average of ½ to 1 page</p> <p>3 required parts</p>	
<p>1. Discussion reflects a conclusion <i>derived from the analysis</i> of the literature review.</p>	
<p>2. Supporting citations are given for key points</p>	
<p>3. Information is presented in a discussion context, rather than simply stated or listed</p>	

CHAPTER SUMMARY Average of ½ to 1 page 4 required parts	
1. Discussion <i>summarizes key points</i> presented in chapter 2.	
2. Supporting citations are given for key points.	
3. Chapter summary ends with transition discussion/sentence to next chapter.	
4. Information is presented in a discussion context, rather than simply stated or listed.	
CHAPTER 3: RESEARCH METHODS Chapter 3 averages 20-40 pages	YES OR NO
Introductory paragraph(s) Average of ½ - ¾ page No subtitle is given to this section. 2 required parts	
1. Discussion begins with restatement of purpose statement to introduce reader to need for study.	
2. Discussion reflects brief overview of the chapter.	
Research Method and Design Appropriateness 3 required parts	
1. Elaboration (from the discussion in chapter 1) of rationale for research method (quantitative, qualitative, or mixed) appropriateness, including a discussion of why the selected method was chosen instead of another. Ex: Why quantitative method selected instead of qualitative.	
2. Elaboration (from the discussion in chapter 1) of rationale for proposed research design appropriateness to learner's study. Discussion is not simply a listing and description of research designs.	
3. Elaboration of why the proposed design will accomplish the study goals and why design is the optimum choice for this specific research.	

POPULATION, SAMPLING, AND DATA COLLECTION PROCEDURES AND RATIONALE 7 required parts	
1. Population: Elaboration of population information given in chapter 1. Description matches the overview discussion given in chapter 1.	
2. Sampling: Elaboration of information given in chapter 1. Discussion reflects sampling number (i.e. participants), how the sampling number was determined, and characteristics of the sample.	
3. Discussion reflects study participants' informed consent, confidentiality, and geographic location information.	
4. Data Collection: Elaboration of information given in chapter 1 Discussion reflects the following: (1) Technique(s) used and rationale for the technique(s) selected, including a comparison to other technique(s) that could be used (2) Kind of data to be collected and rationale for the kind of data	
5. Data Collection: Discussion reflects the kind of data which will be collected, as well as appropriateness to research design and dissertation problem.	
6. Instrument(s): Selection Appropriateness Discussion includes: Why were these instruments chosen over others? What is their appropriateness to this study?	
7. Instrument(s): Reliability Is the instrument validated? If not, applicable pilot study is discussed.	
VALIDITY – INTERNAL AND EXTERNAL 2 required parts	
1. Validity: Internal	
2. Validity: External	

DATA ANALYSIS 2 required parts	
1. Identification of the data analyses that will be performed.	
2. Data analyses technique selection appropriateness to learner's research design.	
ORGANIZATION AND CLARITY 2 required parts	
1. Well-organized: Discussion relates a logical understanding of the overall research design selected for the learner's study.	
2. Discussion presents an in-depth analysis of the research design rather than a listing of what will be used.	
CHAPTER SUMMARY Average of ½ to 1 page 3 required parts	
1. Discussion <i>summarizes key points</i> presented in chapter 3.	

2. Supporting citations are given for key points.	
3. Chapter summary ends with transition discussion to next chapter.	
CHAPTER 4: RESULTS & FINDINGS Chapter 4 averages 20-40 pages	YES OR NO
In the Feasibility Design Specification, this chapter includes a description of the <i>methods of data analysis</i> that are planned. Then, in the Dissertation, this chapter is revised to summarize the analysis performed, and includes: <ul style="list-style-type: none"> • <i>a report of the results and interpretation of data analysis; and</i> • <i>a summary of the primary findings of the analysis.</i> 	
CHAPTER 5: IMPLICATIONS & CONCLUSIONS Chapter 5 averages 20-40 pages	YES OR NO
This concluding chapter of the Dissertation answers the "So what?" questions about the research and contains descriptions of the: <ul style="list-style-type: none"> • contribution to knowledge made by the research; • implications for practitioners and policy-makers in the field; • implications for future research; • conclusions that are derived from the results of the study; and • an assessment of the extent to which the research objective(s) was/were achieved 	

ANCILLARY PAGES <i>The front matter, back matter, and chapters 1, 2, 3 must be in as complete a dissertation form as possible.</i>	YES OR NO
FRONT MATTER	
Front matter is paginated with lowercase Roman numerals; the page number is not printed on the following pages: title, copyright, signature, or abstract.	
Title page in correct format Note: The “running heading” is not used on a proposal or dissertation, it is used when submitting items for publishing ref: APA 6 th ed manual p. 296.	
Title Page: Title of study is 15 words or less and reflects the study topic and variables.	
Approval Page: Formatted page is required at the proposal stage. Signatures are not required until the learner submits the dissertation. At time of final dissertation submission: Mentor and committee members have signed approval page. The date on which all committee members have signed as approving the dissertation. The mentor and committee member signatures need to be dated within a few days of each other. Note per the Dean’s office: If this page is presented with mistakes, it will not be signed.	

Approval Page (i.e. Signature Page): The signature approval line by the school needs to have a signature line with following 3 lines: Name of Dissertation Approval Authority (<i>Check with the Dean's office for this name</i>) Title of Dissertation Approval Authority (<i>Check with the Dean's office this person's title</i>) University of Phoenix	
Abstract: The abstract is not written until after the dissertation study is complete. It is recommended that a blank page with a heading be placed in the proposal to facilitate page numbering.	
Table of Contents: General Format (Dot leaders are used to link the entry and the page number in the Table of Contents.)	
Front Matter - Titles of items appearing before the tables of contents (e.g., "ABSTRACT", "DEDICATION," "ACKNOWLEDGMENTS," "TABLE OF CONTENTS") do not appear in the table of contents.	
The title "LIST OF TABLES" given in the Table of Contents before the chapter 1 title if a list of tables is used.	
The title "LIST OF FIGURES" given in the Table of Contents before the chapter 1 title if a list of figures is used.	
References title given in the table of contents after chapter titles and before appendix title(s)	
Appendix title(s): If any, are/is placed after the references title in the table of contents and are/is the last entry in the table of contents. Table and/or figure names (if any) are placed after the listing of appendix titles.	
If applicable: Table name or a "list of tables" (used if more than 1 table is included in study) is given after the table of contents.	
If applicable: Figure name or "list of figures" (used if more than 1 figure is included in the study) given after the table of contents.	
BACK MATTER	
Appendix items (listed in the table of contents) are placed at the back of the proposal, after the references list.	
<i>References List</i> 6 required parts	
1. Minimum number of references given is generally 30-40 references. Write the total number of references in learner's proposal here: _____	
2. <u>Recent references given with approximately 85% within the last 5 years, or a discussion of the literature gap given in chapter 2.</u> - Write the number of recent (i.e. within 5 years) references here: _____ - Write the # of recent references/total number of references here: _____ - Place a X (X) if a literature Gap exists and is discussed in Chapter 2: Research gap exists in literature review that the relationship between individualism-collectivism culture and turnover intention among the nurses is not explored in literature.	

3. Quality and range of references: Founding theorists, empirical research, peer-reviewed articles, books, and journals (approximately 90%). <i>Comments:</i> The proposal is exclusively discussed from the viewpoint of the founding theorists for each variable, current findings with empirical research support, peer-reviewed, journal articles, and books (> 92%).	
4. Reference list is placed after the main text and before the appendixes.	
5. Reference list is formatted with a hanging indent within an entry.	
6. Follows APA 6 th edition guidelines	
7. Follows the content checklist listed in the DIA Handbook under Appendices J & K in full.	
FINAL DISSERTATION MANUSCRIPT IS WRITTEN IN THE PAST TENSE & ALL REQUIRED SIGNATURE PAGES ARE INCLUDED AS NEEDED (SEE PAGES 29-30)	

Appendix J. Quality Review Checklist

All sections and components must be present for the candidate to move forward in the process. Manuscripts not adhering to this checklist will not be eligible for defense until the missing components are addressed.

<i>OVERALL DOCUMENT QUALITY REVIEW CHECKLIST</i>	YES OR NO
ORGANIZATION AND CLARITY	
Total critical inquiry is well organized, correctly constructed, and communicates clear intended research.	
Every component in the Appendix I Checklist has been addressed and is presented in the exact order listed in the Checklist.	
WRITING STYLE AND COMPOSITION	
Document uses proper APA formatting for both in-text citations, as well as, the reference page.	
Proposal: Entire document is written in future tense.	
Manuscript: Entire document is re-written in past tense. **	
Grammar, punctuation, sentence structure, and spelling are correct.	
Writing is clear, precise, and avoids redundancy. There is a focused discussion of section topics.	
Statements are specific. Sentences are clear, succinct, and not redundant.	
Topical sentences are used to introduce sections and paragraphs.	
Content of sections is related to and supports the topical sentences.	
Flow of words is smooth and comprehensible. There is a logical flow of ideas between sections with smooth transition between paragraphs, topics, sections, and chapters.	
Transitions are established between ideas.	
Written in scholarly language: accurate, balanced, objective, tentative, without conclusive/definitive statements, reflection of researcher's opinion, clichés, or hyperbole, etc. (i.e., proposal reflects doctoral-level scholarly tone and presentation).	
Balanced presentation includes discussion of proponents in the literature review with differing viewpoints on theories and variables used in the dissertation.	
Research presents cited references in developing research problem rather than relying learner's personal opinion (i.e. all statements are supported with references or analytical development).	
The writer's voice is clear and consistent throughout the document.	
ORGANIZATION AND FORM	
Study is logically and comprehensively organized.	

Chapters are integrated and form a cohesive whole.	
Subheadings are used to identify the logic and movement of the study.	
Transitions between chapters are smooth and coherent.	
Study follows a standard form and follows SAS standardization formatting requirements. Including the following: 1. Running heading is not used (ref: APA 5 th ed manual, p. 296) 2. Pagination 3. Citation format 4. Reference format. 5. Listing of items within the text 6. Margins 7. Chapter titles 8. Section title format 9. Page format	
Study has a professional and scholarly appearance throughout, including the following: 1. No formatting or sentence structure errors. 2. Short paragraph structure (e.g. 3-5 sentences per paragraph). 3. Short, clear, and succinct sentence structure (e.g. sentences generally range between 1 - 3 lines).	
Citations are used for direct quotations, paraphrasing, facts and studies, and any personal communications.	
There is a citation used in the text for each reference page entry.	
Reference entry exists for each citation (Exception: personal communication)	
No plagiarized material Note: Questions involving the possibility of plagiarism must be resolved before the proposal / manuscript can go forward.	
FINAL DISSERTATION MANUSCRIPT IS WRITTEN IN THE PAST TENSE & ALL REQUIRED SIGNATURE PAGES ARE INCLUDED AS NEEDED (SEE PAGES 29-30)	

Appendix K. Approval to Defend Checklist



Approval to Defend Checklist

Student Name: _____
Reviewed by: _____

Document Review

This dissertation documents the research conducted and must be consistent with prior approvals. If "No" is marked on any of these items, the document should be returned to the student without further review.

Criteria	Y	N	Required Actions
The dissertation is consistent with the FSS.			
The chapter sections drawn from the FSS have been restated in past tense where appropriate. (Chapters 1.3, 1.5, 1.6, 3.2, 3.3, 3.4)			
Appendix			
Criteria	Y	N	Required Actions
A Student has clearly defined terms, acronyms or symbols used within the document.			
B Student has documentation authorizing access to the research site.			
C Student has included instruments used in the study.			
D Student has included the Certification of IRB Approval			

Review each criterion and rate: Exceptional (E), Acceptable (A), Unacceptable (U).

Items that are considered essential are noted with ⚡ before the criterion statement. Please provide summary suggestions for improvements where applicable.

Chapter	Criteria	E	A	U	Suggestions for Improvements
Chapter 3. Methodology					
3.4 Data Collection Procedures					
	⚡ The student has documented the data collection methods, instruments and protocols in a manner that enables replication.				
3.5 Methodological Limitations					
	⚡ The student has provided a thorough analysis of methodological limitations and adequately describes the influence exerted on data quality, results, or other aspects of the study.				

Chapter	Criteria	E	A	U	Suggestions for Improvements
Chapter 4. Results and Findings					
4.1 Methods of Data Analysis					
	<ul style="list-style-type: none"> The student has documented the data analysis process in a manner that enables replication. 				
	The student has demonstrated an understanding of the data analysis methods selected.				
4.2 Results					
	<ul style="list-style-type: none"> The student discusses and clearly displays the results of the analyses performed. 				
	<ul style="list-style-type: none"> The student demonstrates an understanding of the significance of the results. 				
4.3 Findings					
	<ul style="list-style-type: none"> The student appropriately interprets the results and articulates the significant findings. 				
Chapter 5. Implications and Conclusions					
5.1 Contribution to Knowledge					
	<ul style="list-style-type: none"> The student provides a thorough and complete description of the contribution to knowledge made by the study. 				
	<ul style="list-style-type: none"> The student has associated specific findings with identified contributions and references support of or differences with previous research. 				
5.2 Implications for Practitioners and Policy Makers					
	<ul style="list-style-type: none"> The student provides an assessment of the feasibility of the solution in addressing the problem for practitioners. 				
	<ul style="list-style-type: none"> The student associates specific findings with identified implications for practitioners and policy makers. 				
5.3 Implications for Future Research					
	<ul style="list-style-type: none"> The student provides a thorough assessment of the implications for future research. 				
	<ul style="list-style-type: none"> The student identifies specific findings or unexpected results that deserve further investigation through research. 				
5.4 Conclusions					
	<ul style="list-style-type: none"> The student draws clear and logical conclusions with respect to how the study addressed the problem. 				
	<ul style="list-style-type: none"> The student provides an accurate evaluation of the degree to which the research objectives were achieved. 				

Chapter	Criteria	E	A	U	Suggestions for Improvements
	Overall Recommendation				

Recommendation:

I hereby attest that I have reviewed the submitted final draft of the Dissertation and have assessed the level of acceptability of the content based on the standards for academic quality established by the University of Fairfax.

The Candidate: ☐ is ready to defend their findings. ☐ is not ready to defend their findings.

Signature of Dissertation Committee Member

Date

Appendix L. Certification of University Approval



DISSERTATION TITLE

by

Student Name

has been approved

20xx

We hereby certify that this dissertation, conforms to acceptable standards and is fully adequate in scope and quality to fulfill the dissertation requirements for the degree of Doctorate in Information Assurance.

APPROVED:

Printed Faculty Name, PhD

Dissertation Committee Chairperson

Printed Faculty Name, PhD

Dissertation Committee Member

Printed Faculty Name, PhD

Dissertation Committee Member

ACCEPTED AND SIGNED:

Dissertation Committee Chairperson (Signature)

Date

Dean of Doctoral Research, PhD (Printed Name)

Dean of Doctoral Research (Signature)

Date

Appendix M. Certification of Authorship



CERTIFICATION OF AUTHORSHIP OF DISSERTATION WORK

Submitted to:

Dissertation Committee Chairperson

By:

Candidate's Name (Printed)

Date of Submission: _____

Title of Dissertation:

Certificate of Authorship: I hereby certify that I am the sole owner of this document and that any assistance I received in its preparation is fully acknowledge and disclosed in this document. I have also cited all sources from which I obtained data, ideas, or words that are copied directly or paraphrased in this document. Sources are properly credited according to accepted standards for professional publications.

Candidate Signature

Date

Appendix N. Copyright Statement

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Appendix O. Copyright Statement



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Submitted in partial fulfillment of the requirements for the doctoral degree at the University of
Fairfax.

By: _____

Signed Name of Assignor

Date: _____