Business School
UNIVERSITY OF COLORADO **DENVER**

CSIS BUSINESS PH.D. PROGRAM HANDBOOK

CSIS BUSINESS PH.D. PROGRAM IS PART OF THE CSIS PH.D. PROGRAM

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DISCLAIMER FOR CSIS BUSINESS Ph.D. PROGRAM HANDBOOK

The CSIS Business Ph.D. Program is part of the CSIS Ph.D. Program. It is located in the Business School of the University of Colorado Denver. Students get a Ph.D. degree in CSIS when they complete the program. The program is managed by two co-directors. One co-director is from the Computer Science Department of the Engineering School, and the other co-director is from the Information Systems Department of the Business School at the University of Colorado Denver.

This handbook is focused on the CSIS Business Ph.D. program. This handbook does not constitute a contract with the University of Colorado Denver, either expressed or implied. The Business School reserve the right at any time to change, delete, and add to any of the provisions at its sole discretion. Furthermore, the provisions of this document are designed by the CSIS Business Ph.D. Program to serve as guidelines rather than absolute rules. Exceptions to the mentioned guidelines may be made based on extenuating circumstances.

The policies described within this handbook are the minimum standards, policies, and procedures for the CSIS Business Ph.D. Program. This handbook complements the rules and policies the Graduate School of the University of Colorado Denver (hereafter, the Graduate School). Graduate School rules, policies, and forms are available through the website: http://www.ucdenver.edu/academics/ colleges/Graduate-School/current/Pages/resources.aspx. Students are strongly encouraged to go through the policies and all relevant documents at the website and be thoroughly acquainted with rules and procedures of the Graduate School.

Any exceptions, direct or indirect implications of this handbook, or confusions between this and the Graduate School policies, have to be consulted and discussed with the CSIS Business Ph.D. Program Co-Director. Faculty advisors may adopt more stringent rules and requirements for the students they are advising. It is requested that the CSIS Business Ph.D. Program Co-Director be informed about exceptions and adjustments.

FORWARD FROM THE ACTING DEAN

The Computer Science and Information Systems (CSIS) Ph.D. program is the highest academic honor that the Business School can confer to its students. The program uniquely promotes interdisciplinary research between the College of Engineering's Computer Science department and the Business School's Information Systems program. It is a rigorous program to train and prepare students to be independent thinkers and give them the ability to undertake innovative research in the Information Systems field during their Ph.D. work and in their professional career.

The CSIS Ph.D. program starts with a solid foundation in research methodology and offers a unique synthesis of state of the art technologies and approaches from Computer Science and Information Systems. It emphasis a mix of hands-on and theoretical work by training students to implement, deploy and evaluate Information Systems solutions that are of interest to academia and industry alike. The CSIS Ph.D. program prepares students for teaching and research careers involving design, implementation, and deployment of information systems solutions to bring business value to organizations and society as a whole. Graduates of the CSIS Ph.D. program will have the training needed to embark on their academic and non-academic careers.

Dr. Jahangir Karimi
Associate Dean of Faculty, Staff, and Operations

WELCOME FROM THE CSIS BUSINESS PHD PROGRAM CO-DIRECTOR

Dear _____,

Welcome to the CSIS Business Ph.D. Program at the University of Colorado Denver. An important step to fulfill your dream!

The CSIS Business Ph.D. Program is designed to provide a career through investment relevant to digital business scholarship. You will find that it is research intensive. Our students and faculty work on joint research projects throughout our students' time in the program.

The business world is in the digital age. There is no business that does not use information technology to be successful, although the breadth and depth of such use differ. The transformative role of IT to change businesses is seen in many sectors such as communication and entertainment, while others such as healthcare are catching up with the trend. In this digital age, accelerated change is driving the global economy. The business world needs pioneering scholarships that can examine the market complexities. Managers need new strategies and tactics to transform their businesses. The new business models, tools, and applications can help managers to lead, manage, innovate, and succeed in their businesses and achieve sustained performance. The CSIS Business Ph.D. program has the objective to inform and help the digital age business world by training and producing tomorrow's thought leaders.

Launched in 2002, the CSIS Ph.D. Program was a combined initiative of the University of Colorado Denver, from the Engineer School's Computer Science Department and the Business School's Information Systems Department to provide next-generation thought leaders to global professional and research work-force. The information systems side of the program has since been continued success by placing Ph.D. graduates in industry and academics. The program strives to produce business school graduates who are analytical, resourceful, innovative, hard-working and passionate and determined to manage complex problems, find entrepreneurial solutions, and succeed.

The primary mission of the Ph.D. Program is to produce individuals who will contribute to the discovery and dissemination of scientific knowledge through continued careers in research, publishing, and teaching at research-oriented universities and research-oriented non-academic institutions throughout the world. In carrying out this mission, it is recognized that we operate in a knowledge-based economy that is being transformed by information technology.

The purpose of this handbook is to provide a convenient summary of the requirements, plan, and process of the CSIS Business Ph.D. Program. If you have any questions about the program, contact me at my email: jiban.khuntia@ucdenver.edu; or walk into my office at BUSB 4300.

Strive hard, and excel!

Dr. Jiban Khuntia
CSIS Ph.D. Program Co-Director

PROGRAM BENEFITS

The CSIS Business Ph.D. Program at the Business School includes several components designed to offer its doctoral students a well-designed degree of compensation, resources, and benefits. These include:

Funding: Every full-time student admitted to the Ph.D. Program typically receives full financial support in the form of scholarships and teaching assistantship. Students do get the opportunity to teach classes—that comes with a remuneration. Also, each student also receives need-based travel support on request from the Business School and Graduate School. The scholarships and assistantships depend on satisfactory progress in the program.

Facilities: Each student is provided with a two-person shared room and a computer. Students have access to team study rooms and typical office equipment, such as printers and copiers. We also have laboratories dedicated to the teaching and collecting data, and running massive analytical operations, for different areas of research.

Faculty-Colleague Relationship: A close working relationship between faculty and Ph.D. students is a hallmark of the program. We foster and welcome cross-discipline collaboration. Faculty from other disciplines are most welcome to join a student's research and contribute to the intellectual pursuit.

Recognizable Research: Students regularly present papers at national as well as regional conferences and have papers accepted in major academic journals.

Placement Assistance: Subject to satisfactory progress, students are mentored to get tenure-track positions from faculty.

Invited Speakers and Lectures: There are a number of ongoing speaker and lecture series in the Business School and University that help students to meet other faculty and industry leaders. Students get ideas about new and cutting-edge research, foster collaborations, and get motivated. In addition, the Information Systems program invites star faculty and speakers from different areas to speak and interact with students. Faculty and students also participate in a number of local multi-institutional speaker series, such as the Front Range Seminar.

Conference Participation: Faculty and students from the program participate in regional, national and international conferences. Several faculty serve as editors and chairs in conferences and journals—that helps students to get acquainted with the research-presentation in conferences and subsequent research-publication paths.

Not a Course, but a Life-Changing Career Path: The Ph.D. program is designed to provide a life-changing career path. Students should not consider it as a course-based program. As highlighted in the degree plan, the IS Ph.D. Business students will complete coursework and training in the following areas: (1) course based training, (2) apprenticeship, (3) teaching preparations, (4) scholarly and community engagement. The course program component focuses on training students on how to perform quality academic research. The apprenticeship

component involves the completion of research projects with faculty. Faculty will work as advisors and consultants to assist students in the completion of quality research projects. Faculty will not execute student research but will oversee the rigor, relevance, design, and completion of research projects. A faculty advisor will actively guide students in the completion of their Ph.D. degree as well as job placement in tenure track positions at research universities.

The teaching component involves training students in teaching pedagogy, teaching process, and methods for course design and assessment. During the Ph.D. program, students are expected to teach at least one undergraduate IS course and serve as teaching assistants in graduate level courses. This effort will contribute to a student's financial standing throughout the Ph.D. program as well as experience the design and execution of an IS course.

The scholarly and community engagement component involves conference attendance, organizing conference or seminar tracks/sessions, reviewing paper submissions, and serving as editorial assistants to faculty.

Faculty take pride in exposing students to other faculty during conferences. Students get the opportunity to interact with faculty in other universities. However, it is strongly recommended that each student earn and deserve such reward and help from faculty with your passion for research and demonstrable success. They should know how efficiently and effectively do the outside interactions with the scholarly community, and therefore, need to get the best from the apprenticeship-oriented training.

Remember, it is not a course, it is an academic life that is beginning to form during your Ph.D. studentship.

ROLE(S) OF ADVISOR

The advisor has multiple roles in a Ph.D. student's path to success. The roles span from being a mentor to be a friend, philosopher, guide, and motivator in the long and grueling path. At the same time, the advisor has to ensure that the student's work has quality, aligned to recent trends, and will achieve both short- and long-term success. It involves major decisions, a balancing act, and possibly, helping and convincing the student to do well, both at normal and conflicting situations. It is not 'rosy,' nor 'ad-hoc', but is a very 'involving, nurturing, and guiding' role, while being the task-master.

The following are some basic points about the role of advisor. This is not a complete list. If you are an advisor, you can add your points to this list. The objective of this list is to provide some idea to both advisee and advisors about mutual involvement and expectations. Certainly, both student and advisor have to mutually respect each other, while co-creating value in the academic discipline.

Relational

1. Meet the student first as people.
2. Being a mentor is a very serious responsibility.
3. They have goals and aspirations just as you do.
4. Strive to make a difference in the student's career.
5. Develop your own style of advising. Simply, by doing it.
6. Be positive. Be enthusiastic. Be cheerful, optimistic, and helpful.
7. Establish a professional relationship with the student.
8. Make your presence matter in the life of the doctoral student.
9. Model appropriate behavior.
10. Be available. If this means meeting with a student at a location other than school or university, do it.
11. Some advisees need a lot of attention, guidance, and direction. Others are self-directive. Be flexible and adaptable.
12. You would want your student to tell you "I like the way you are always available, keep it up"

Guidance/Mentorship

1. Provide constructive and useful feedback.
2. Direct to relevant sources of information.
3. If the student had known how to figure out, he or she would not ask you.
4. Know your own strengths, attributes, weaknesses, and limitations.
5. Share with students what you cannot do, but may help in the process
6. Do your homework in advising each student. Make certain you study the topics that your advisee is interested in developing
7. Think about your own dissertation experience. Possibly, avoid any mistakes that were made. Incorporate effective and good strategies that worked.
8. Accept the responsibility of doing a great job. Accept the fact that you know more about

writing a dissertation or a paper than your advisee.
9. It is your duty to guide your advisee to quality and professionally satisfying research work, dissertation and papers.
10. Mentor students to prepare research work and manuscripts for publication in conferences and peer-reviewed journals.
11. You may choose another co-advisor, if needed, to fulfill the objectives. Consult with the student and the co-advisor. Some noble laureates have gotten benefits and leverages of co-advising.
12. Link students with similar dissertation topics together. You may get a scale and scope effect.

Informational/Procedural

1. Keep records, documents, and track the progress of advisee. Keep a folder for each student. Review it periodically.
2. As an advisor, recognize the time when the dissertation topic may be revised or changed. Take the call than wasting time on what does not work or is not relevant.
3. Do not hesitate to tell the advisee to put more efforts, when and where it is needed. Realize, as an advisor, that there are different strategies to write a dissertation or a paper.
4. Encourage the student to communicate with others in different colleges or departments. They may learn from seniors or other dissertation writers. They often get practice feedback and encouragement.
5. Tell your advisees how you like to work with them. If you need to work from an outline, tell it clearly. Tell advisees to know your work habits.
6. Be diligent in reverting back to your student. Make certain to develop the habit of getting things back students in a timely manner, hopefully, within five-ten business days. Do not let too much time elapse.
7. Read advisee's work at your earliest convenience. You both are busy. Establish timelines with the advisee and meet them. Encourage to follow-up with you if you have taken too long to respond to them.
8. Make students responsible for meeting deadlines.
9. Give lots of suggestions. However, be specific, exact, concise, detailed, and comprehensive in all aspects of your advising.
10. Encourage students to talk to committee members. Other committee members may suggest different approaches. When this happens, meet with the advisee. You may agree or disagree, but keep the dialogue open and positive.
11. The doctoral student and advisor should consult someone other than the students' committee members for special advising, expertise or inputs, as and when necessary.
12. As the dissertation advisor, you may consider informal approval from committee members for proposal and defense before presentation or defense. By doing so, the committee members agree that student is ready to present and defend.
13. Recommend or consider doctoral students for university-related responsibilities, such as facilitating a class when faculty is not available, or proctoring examinations, or teaching one class of his or her relevant topic. This gives them experiences in higher education.

Inspirational

1. Be aware of bottlenecks, frustrations, bog-down times of your advisee. Motivate.
2. If you are inexperienced, try to work with a colleague who has a successful experience. As an advisor, you are there to help. Help, as much as you can.
3. Be supportive of the advisee's work, use specific examples in telling their work is good or not acceptable. Point out where the work needs improvement.
4. The advisee should not hear major changes for the first time at the proposal defense. If you sense changes, prepare him or her for that earlier.
5. Constantly prepare advisee for their proposal, defense, and other activities. Keep them focused.

Absolutely Important

1. Do not take the job of an advisor if you do not intend to make it a priority.
2. Do not be an advisor if you do not enjoy it.
3. Do realize that advising takes enormous time and commitment.
4. Do not engage in advising, only because it helps your objectives.
5. You may have to meet with other committee members if needed. You may have to discuss the student's progress with other advisors, faculty or program co-director. Do it without any hesitation.
6. Help your advisee. Help her or him clarify. Help her or him polish. Help in any way you can. However, be careful that the help is not a free-riding without commitments from the advisee.
7. If feasible, try to obtain adequate funding for your advisee's research, depending on your priorities.
8. If, and when, the student changes his or her advisor, be open to it. Appreciate the investment of your colleagues in the process in the past. Students may be free-riders until an advisor leads them to hard work or do something better. Realize the motivation and importance from both sides. Students may create a hostile environment to achieve immediate gains or get a 'better ride". Be sensitive to such behavior or situations. Discuss with your colleagues about this change. Do not jeopardize your collegial relationships with other faculty because of students' motives or behaviors.

Note for Ph.D. students:

- While understanding the above role(s) of advisor, you need to follow certain norms, guidelines, and cordial working relationship with an advisor.
- It is your Ph.D., it is your dissertation, you will get a job, you will succeed. Advisor has nothing to gain from it. Appreciate the pro-bono help of the advisor.
- Academics flourish with advisor-advisee and mentor-mentee process. Knowledge, being intangible, takes this process to flow. Academic lineage or academic ancestry is important in this process. Realize that and live up to the expectations!!

CSIS BUSINESS PH.D. DEGREE PLAN

POST ADMISSION AND PRIOR TO COURSE BEGINNING

The Ph.D. program includes at least 30 hours of course work beyond the Master's level. At least 30 additional credit hours of dissertation work are also required. Students not holding a master's degree in IS, and demonstrating insufficient skills, may need to take additional coursework before the start of their Ph.D. program.

General Requirements of the Program

Each student will develop a detailed program plan with the consultation of an advisor(s) to outline two years of required course works, take the written comprehensive exam, fulfill their teaching requirement, and complete their dissertation. Besides these general requirements, students should work with faculty on various research assignments that ultimately may be published in top-ranked IS journals.

Post-Admission and Before Start of Ph.D. Program

Admitted Business School Ph.D. students will be assessed for core knowledge in the areas of technology, mathematics/statistics, and professional writing. These requirements may be waived if the admitted student demonstrates sufficient skill and prior education or professional experience. Any student admitted without sufficient skills may be required to take at least one course in each area. Generally, these are Masters level courses. Required prerequisite courses will be determined in consultation with the CSIS Ph.D. program co-director. Ideally, requirements must be fulfilled before enrollment into the Ph.D. program. No Ph.D. program funding is guaranteed until all required prerequisites are completed.

Skills Assessment

For students with an MSIS degree or equivalent degree, technology knowledge courses may not be necessary. However, mathematics/statistics and writing skills will be assessed, and prerequisite courses may be required. For students with another master's degree such as an MBA, technology knowledge, mathematics/statistics knowledge and writing capabilities will be assessed, and one or more prerequisite courses may be necessary.

A waiver of technology knowledge courses may be obtained from the MSIS discipline director. The MSIS discipline director must approve the waiver of any MSIS course listed below if you do not have an MSIS or equivalent degree. Waiver petitions must be submitted through the Business School Advising Office, and all approved waivers must become part of your student file for the Ph.D. degree audit.

Knowledge Area: Technical

Topic	UCD Course	Term	Grade	Advising Review
Business System Design	ISMG 6040			
Systems Analysis and Design	ISMG 6060			
Database Management Systems	ISMG 6080			

Data Communications	ISMG 6120			
IS Management and Strategy	ISMG 6180			

Knowledge Area: Mathematics / Statistics

Topic	UCD Course	Term	Grade	Advising Review
College Algebra	MATH 1070			
Calculus I / II	MATH 1080			
Master's Level Statistics	BANA 6610			

Knowledge Area: Writing

Topic	UCD Course	Term	Grade	Advising Review
Professional Writing Capability	ENGL 3170			

Important Forms and Record Keeping

- The tracking form **"Ph.D. in Computer Science and Information Systems Degree Plan for Business School Students"** is used to track your progress in the program. Fill it in at least once in every semester.
- **A Canvas shell (IS Ph.D. Program) will be available to you**. Upload all your information, bio, CV, working or published papers, dissertation proposal, filled in and signed forms there. Rather than asking information to you, the shell will provide access to your advisor, to the program director and any advising staff to find the documents.
- Every semester, once in the beginning and once towards the end of the semester, take an appointment for a meeting with the CSIS Ph.D. Program Director. Discuss your progress and timeline. He may have some suggestions for you.
- Ph.D. Process involved patience and perseverance, along with hard work.
- Discipline and being organized is important, during Ph.D. and subsequent research career.
- The information and guidelines provided in the degree plan is repeated in respective forms and other documents. This is intentional to keep the forms and documents aligned and help you to be organized.
- The handbook refers to different forms, some from the Graduate School. Please know them all, and get yourself acquainted as soon as you are enrolled in the program.
- The CSIS Business Ph.D. program has some additional requirements than the Graduate School.
- In the very beginning of the program, it is good to know about the school, faculty, university, and all resources available thereon.
- For example, connecting with the Writing Center of the Business School/University will go a long way in your Ph.D. process.
- Similarly, taking a course or training on presentation skills will help you to sharpen your presentation skills to make you ready for the job market.

CSIS BUSINESS PH.D. DEGREE PLAN
TRANSITION TO ACTUAL PH.D. DEGREE PLAN

Business School IS Ph.D. students should complete at least 60 credit units of coursework. This includes 30 units of Ph.D. level IS theory-based and research methods courses and 30 dissertation topic units. Students generally complete the IS theory-based and methods coursework within the first two years of their program. After the first year, during the summer, students will work on a summer research project. A paper based on that project is to be submitted and presented to the faculty in a research seminar setting at the beginning of the second year. After completing all required coursework, students immediately take a comprehensive exam, typically during the Maymester time-period if finishing coursework in the Spring.

Following successful completion of the comprehensive exam, students begin to work on their dissertation research during the Summer before the start of their 3rd year. The dissertation is an independent research project conducted by the student under the supervision of a dissertation committee assembled by the student. It is strongly recommended that students conduct research consistent with the research interests of current faculty. These topics include Behavioral, Organizational, Economics, and Social issues related to information systems.

COURSE WORK (FALL 2019 ONWARDS)

CSIS Required Core IS Ph.D. Seminar Courses (3 courses, 9 credit hours) (CSIS Ph.D. Seminar)

Topic	Course	Faculty (varies)	Schedule
Philosophy of Information Systems (IS)	ISMG 7208		
Behavioral & Organizational Research in IS	ISMG 7211		
Strategic & Organizational Research in IS	ISMG 7212		

CSIS Required Core IS Ph.D. Method Courses (3 courses, 9 credit hours) (CSIS Ph.D. Method)

Topic	Course	Faculty (varies)	Schedule
Advances in Management IS Research	ISMG 7200		
Mixed Methods in IS Research	ISMG 7214		
Research Methods Design and Analysis	ISMG 7220		

CSIS Required Courses Outside of Business School (Min 4 courses, 12 credit hours)**

** Students must take CSCI 7799 or equivalent and a CSCI Breadth Course. In consultation with Advisor, students must also take a minimum of 9 units of Ph.D. level, Advanced Research Methods courses.

Topic	Course
CSCI doctoral course	CSCI 7799 or equivalent
CSCI Breadth Course: Choose a course from the CS Breadth Course list	CSCI X
2 Required Ph.D. Level Advanced Research Methods Courses	TWO-ADV RES X

Computer Science (CS) Breadth Course List

Students can take two computer science courses most appropriate for Ph.D. students, with consent from the student's advisor and the Ph.D. program co-director. An updated list is available with the program co-director based on the CS department recommendations. An example of a course is CSCI 7765-Computer Networks.

Advanced Research Methods Topic, Ph.D. level courses outside of Business School (6 Credits)

- Option 1: Behavioral Research Methods
    1. Multivariate Statistics I
    2. Multivariate Statistics II
- Option 2: Econometrics
    1. Econometrics I
    2. Econometrics II
- Option 3: Qualitative Methods
    1. Qualitative Research Methods I
    2. Qualitative Research Methods II

Additional Coursework

Students are encouraged to take **additional elective and methods courses** depending on their area of research interest and academic plan. These courses are optional based and are not required of the Ph.D. program. The goal of these courses is to provide students with breadth courses in an IS related area of research.

- For example, based on research interest, students may take masters level courses
    - A student interested in IT and Marketing may take one or two marketing courses
    - A student pursuing digital health research should take health IT classes
    - A student exploring IT and the Stock Market search should take an econometric course focused on time-series analysis
    - A student interested in game theory should explore relevant economic courses
    - A student interested in social network analysis or text analytics method can take relevant courses from communication, sociology and/or computer science.

Teaching Practicum or Equivalent Experience

The teaching component involves training students in teaching pedagogy, teaching process, and methods for course design and assessment. During the Ph.D. program, students are expected to teach at least one undergraduate information systems (IS) course and serve as teaching assistants in graduate level courses. All students must provide evidence of post-secondary teaching as part of their graduation requirement. That can be accomplished by teaching one or more courses throughout the program. This effort will contribute to a student's experience in the design and execution of a course.

Students have the option of teaching additional course sections to gain more expertise in teaching. Teaching more courses would allow students to develop and refine their skills for a higher education setting and produce a stellar record of post-secondary teaching experience for future career placement. This option is subject to the availability of courses in the information systems discipline. The time required to teach each course is considered to be approximately 9-hours per week. Consult with your faculty advisor and program director if you are interested in teaching more than the one mandatory course.

Courses and the Ph.D. Program

- Fill in the form "Ph.D. in Computer Science and Information Systems Degree Plan for Business School Students" as soon as you have completed a course.
- Keep the course notes, syllabus, and other materials –you may need them for the comprehensive exam, or even during your dissertation process.
- Courses are a means to the program, not an end. Do not be bogged down by taking only courses. You need to get into the execution of research early in the program.
- Schedule regular meetings with your advisor, as soon as you choose one.

EXAMPLARY SCHEDULE AND MILESTONES *

Year & Semester	Milestones	Year & Semester	Milestones
Year 1, Semester 1	Coursework - CSIS Ph.D. Seminar 1 - CSIS Ph.D. Seminar 2 - Advanced Research Method (ADV RES X) or Computer Science Course (CSCI X) Initiate research project 1 (RP1) with faculty.	Year 1, Semester 2	Coursework - CSIS Ph.D. Seminar 3 - CSIS Ph.D. Method 1 Complete research project 1 (RP1) with faculty. Work on at least one publication for submission to a conference
Year 1, Summer	Prelims examinations. Conduct independent research with the faculty advisor; be ready with a rough draft by the end of summer. Continue writing and improving the paper for presentation in year-2.		
Year 2, Semester 1	Coursework - CSIS Ph.D. Method 2 - Advanced Research Method (ADV RES X) - Computer Science Course (CSCI X) Initiative research project 2(RP2) with an advisor	Year 2, Semester 2	Coursework - CSIS Ph.D. Method 3 - Advanced Research Method (ADV RES X) or Computer Science Course (CSCI X) Complete research project 2(RP2) with an advisor for submission to a conference
Year 2, Summer	Comprehensive examinations. Develop preliminary ideas for a dissertation topic.		
Year 3, Semester 1	Dissertation hours (6) Conduct research for dissertation proposal (at least two essays, three is better), with a focus on literature review, research questions and proposed methods	Year 3, Semester 2	Dissertation hours (6) Dissertation first study should be complete or near to completion
Year 3, Summer	Dissertation hours (6) Dissertation proposal submission to the committee for review and finalization Finish Dissertation Essay 1 and plan for submission to a journal		
Year 4, Semester 1	Dissertation hours (6) Defend proposal. HICSS and ICIS paper submissions. Research seminar presentation and Job preparation (Complete enough of the dissertation to be able to interview at the International Conference on Information Systems (ICIS) in December).	Year 4, Semester 2	Dissertation hours (6) Campus interviews, finalize/negotiate job offers. Finish and defense dissertation. Prepare dissertation journal articles.

***** For Fall Entry, Odd Year Cohort, such as Fall 2019. Adjust the schedule based on your entry semester and year. Note that depending on the entry, the CSIS seminar and method course sequences will vary. The numbers 1, 2, 3, depicting the seminar or method course sequences does not indicate the level of the courses.

Stay on the Course

- **Regularly**, apprise your advisor about your progress. Take appointments for regular meetings.
- The program co-director will seek inputs and review your progress with your advisor, at least once every semester. The advisor may give some commentsabout the Ph.D. Program co-director may discuss with you if required. Take these comments very seriously.
- Start research execution as early as possible during the program. Take initiatives to share your research papers, take feedbacks, and critical remarks. That helps you to learn about what is a good research. Present your work. Attend seminars and conferences.

PRELIMINARY EXAMINATION

The preliminary examination is the first milestone in the program. Successful completion of all the three core IS Ph.D. Seminar courses, with at least A- grade is considered as completion of the preliminary examination. If the student fails to receive an A- in one or more of the three courses, the student will take a separate preliminary examination for each of those courses. This exam is administered by the faculty teaching the course. Students receiving at least an A- in the administered examination will pass that portion of the preliminary examination. If the student fails the preliminary examination, he/she will be allowed to repeat the course one time and must receive an A-. If the course is not scheduled to be offered again within two years, the student will be able to substitute another course, with permission of the original faculty member and the Ph.D. program director. The student will be allowed to conduct his/her research activities and take the other courses in the Ph.D. program but cannot take the Comprehensive Exam until all preliminary exam courses are passed. Failure to pass a preliminary exam course may result in loss of financial support, such as any tuition waiver, research or teaching assistantships, or teaching activities.

Forms to Fill After Preliminary Examination

- Fill in the form "Ph.D. in **Computer** Science and Information Systems Degree Plan for Business School Students" (up to the Prelims Exam portion and take Ph.D. Program Co-Director's signature
- Post a PDF copy of the form in the IS Ph.D. Program Canvas Schell at the Prelims Exam Module

COMPREHENSIVE EXAMINATION

The comprehensive examination is the second milestone in the program.

Philosophy

1. The comprehensive exam is oriented toward 'complete IS research' objectives. Performance on the exam should reflect a students' command of relevant literature, research methods, a research agenda, and research project operation, and completion.

2. Completion of the comprehensive examination demonstrates a student's capability to complete, with guidance, valued IS academic research. The student is then able to advance toward the third and fourth year of the program with a high probability of success in the execution of a quality Ph.D. dissertation.

Timeline

- The comprehensive exam will consist of two major components completed at two different dates
  - A comprehensive written examination will be held at the beginning of the Summer immediately following the end of the student's second year (June 1).
  - A comprehensive oral examination will be held toward the end of the Summer immediately following the end of the student's second year (by July 31).
- Failure of the comprehensive examination will result in the termination of a student's program.
- In extraordinary circumstances, only one retake examination may be taken 30 days after

the initial examination, upon a majority vote of the 3-person comprehensive exam committee and the Ph.D. co-director.

Structure

- **Written examination component**
  - Step 1: In-class
    - Goal: Examines if the student is conversant in an important IS research topic including the evolution of results, methods, and application to research. Such skills are needed, for example, when engaging in a conversation at an academic conference or when interviewing for a tenure track position.
    - Topic: 2 IS research topic areas known in advance of the exam
    - Structure: 2 questions, 1 per IS research topic area
    - Logistics: In-class session. The start time of 9:00 am on the test date, with arrival at the test site by 8:30 am. **2.5 hours** in length with end time of 11:30 am. Desktop/laptop to be provided. Closed book, closed note. Schedule needs to be confirmed by the program director and the students taking the exam.
  - Step 2: Take-home
    - Goal: Examines if the student can summarize an important IS research topic (current knowledge, methods, identification of critical gaps, etc.) when material and more time is available. Such skills are needed, for example, when writing an academic paper or conducting a paper review for an academic journal.
    - Topic: A list of potential IS research topics will be provided in advance of the exam. The exam will be centered around 1 IS research topic from this list.
    - Structure: 1 question
    - Logistics: Exam can be taken at the location of the student's choice. Exam answer must be submitted by 4 pm, **two calendars days** after the date of the in-class written examination. Exam answer must be emailed to both the student's advisor and Ph.D. program co-director. No late work will be accepted regardless of technical issues, battery or power issues, or service provider issues.
- **Oral examination component**
  - Goal: Examines if a student is able to develop and propose quality and critical (missing, needed, valuable) academic research idea and project of their own doing, that uses quality and appropriate research methods. Such skills are needed, for example, when creating new research streams independently while working in a new tenure track position after graduation. Such presentation capabilities are required, for example, during job-talk presentations when searching for a tenure track position.
  - Topic: Students must present a research proposal for a research project that they are leading and working on independently.
  - Structure: The presentation must focus on a literature review, identification of critical research gaps, creation of valuable research questions, and the introduction of a theory-

based model and measurement plan for conducting the proposed research project.

- The future research project can involve only a proposed research plan. No written paper **needs to be** submitted for this part of the exam. However, students are **encouraged to** send the paper to the faculty, at least 7 days in advance of the exam date and time.
- Logistics: Examination takes place during a 1.5-hour presentation; 60-minute student presentation, 30-minute committee questions, and answers. The presentation will take place in a conference room at 10 am on the test date. The student must arrive by 9:30 am on the test date, to set up the laptop, overhead projector, and set up the presentation. Schedule needs to be confirmed by committee and student.

Forms to Fill for Comprehensive Examination

- Schedule the Comprehensive Written and Oral examination dates in consultation with your advisor and Ph.D. program co-director.
- Fill in the "Exam Request" form of the Graduate School, available at the scroll down link for students at http://www.ucdenver.edu/academics/colleges/Graduate-School/current/Pages /resources.aspx. Note that this form is due AT LEAST **two weeks before the date** of the oral examination. This form also works as the **evaluation form for comprehensive exam**.
- Fill in the Graduate School's **Application for Candidacy form** at this time, as well. This form needs that you complete 30 credit hours of course work.
- Take advisor's signature and SUBMIT both the forms in the placeholder for it in Canvas, in Comprehensive Exam module. Also, send an email to the Ph.D. Program Co-Director indicating this submission.
- Both these forms will be sent to graduate school, prior to your oral examination (at least two weeks, preferably, a month)
- The Program Director will coordinate the evaluation of both exams. Also, the Graduate School will coordinate with your oral exam chair for a comprehensive exam evaluation form.
- Once you pass both the written and oral examinations, and the Graduate School checks all the documents, you will be declared to pass the comprehensive exam. The Program Direct will intimate you the results.
- If you pass the comprehensive exam, you are a **Ph.D. Candidate**. Do highlight that in your CV and Email Signature.

DISSERTATION PROCESS AND GUIDELINES
Dissertation Advisory Committee

After **selecting** a dissertation advisor, the student, in collaboration with his or her dissertation advisor, will choose a Dissertation Advisory Committee, subject to the approval of the graduate Program Co-Director. Although it is recommended that the Dissertation Advisory Committee be the same as the Dissertation Examination Committee, the two committees need not be identical. Although the student's dissertation advisor may not chair the Comprehensive or Dissertation Examination Committees, Programs are given the flexibility to permit or prohibit the student's advisor to serve as Chair of the Dissertation Advisory Committee. The Dissertation Advisory Committee will serve an advisory function to the student and dissertation advisor and will also monitor the student's progress toward completing the dissertation. The Dissertation Advisory Committee will determine when the student has made sufficient progress to begin writing his or her dissertation.

All Ph.D. students who have advanced to candidacy must meet with their Dissertation Advisory Committee at least once every year, although some Programs may require – and the Graduate School encourages – a greater frequency of meetings. It is the student's responsibility to identify the best available time and schedule the meeting.

The Dissertation Advisory Committee shall evaluate the student's progress to ensure that s/he has made satisfactory progress since the previous meeting. The Committee Chair will complete the Dissertation Advisory Committee meeting form summarizing the student's progress, or lack thereof, and send copies to the student, the primary mentor if not the Chair, the Program Co-Director, and the Graduate Dean. In the case of non-satisfactory performance, steps to be taken to rectify the situation should be suggested in the report. If a student fails to meet with their Dissertation Advisory Committee within the previous 12 months, the Graduate School will notify the student and dissertation advisor that the committee must meet within the next four (4) weeks. Students who fail to have a Dissertation Advisory Committee meeting by the end of this four (4) week probationary period will not be permitted to register for subsequent semesters. Once the student complies with this rule, s/he will be permitted to register.

Committee Requirements:

- Committee Members: At least four. Should include:
    - Research Advisor: IS Full-Time Graduate faculty
    - Committee Chair: IS Full-Time Graduate faculty (chair of the committee may not be advisor)
    - At least one other IS Full-time Faculty
    - At least one CS full-time graduate faculty
    - Any other Graduate Faculty, if needed, more than one.

Note on Choosing Committee Members

- Think much earlier about your committee formation. Do not keep till last months of dissertation process.
- Discuss with your advisor about formation of committee members. The advisor should be comfortable with the committee, and may suggest some names.
- Approach the committee member with a purpose, politely, and through a scholarly-communication process. A member need to appreciate your research.
- If you are choosing an external committee member than the regular IS faculty, make sure the committee member is a special graduate faculty at the graduate school. A list of current Graduate Faculty Appointment are available at: http://www.ucdenver.edu/academics/colleges/Graduate-School/current/Pages/faculty.aspx . If the name is not included, a procedure need to be followed to nominate and appoint the member as a special faculty member. This may take more than a month, for the member to fill in the form, send along with CV to the CSIS Ph.D. Program Co-Director, nominate to Graduate School, and get the appointment through. Do this early enough to ensure that your committee is all set.
- Keep your committee regularly updated about your research progress.
- You may form the advisory committee prior to the dissertation hours are complete, so jump to the Dissertation Advisory Committee portion in the "Ph.D. in Computer Science and Information Systems Degree Plan for Business School Students" and fill that portion in. Keep a note of the physical or virtual meetings with the committee members in this form. You may post updated form to Canvas, or wait till your proposal stage to make the updates.
- This stage is also important to make your dissertation 'packaged' to be trendy, cutting-edge, or aligned to recent academic job market. Positioning the dissertation with both practice and academic motivations, and applying the three ground rules of 'recency, relevance, and rigor' are important distinctions for a good dissertation.

DISSERTATION PROPOSAL

This is the fourth milestone of the program. All doctoral candidates must propose their dissertation no later than the end of their fourth academic year to ensure satisfactory progress in the program and thus fifth year funding. The dissertation proposal requires the doctoral candidate not only to assemble a dissertation committee, but also to propose their dissertation research and prepare for successful completion of the dissertation defense. The dissertation proposal should meet scholarly standards. Dissertation advisor should ensure the standard. **The proposal should be formatted as per the graduate school dissertation guidelines**. The proposal should be detailed enough so that the dissertation advisory committee can evaluate the potential for successful completion. The dissertation proposal serves as a guideline which the student and dissertation committee can use to ensure a successful completion of the dissertation.

Process and Forms at Dissertation Proposal Stage

The following are the steps for the proposal and presentation.

1. Think ahead about your proposal and deadlines. Do not wait till last moment.
2. The completed proposal should be given to each committee member and the program co-director at least two weeks before the proposal presentation. Failure to compliance to this guideline may lead the co-director to stop the proposal presentation and reschedule.
3. The student will schedule a proposal presentation (also called as proposal defense) in coordination with the committee members. Faculty is busy with number of responsibilities. Please coordinate this date much earlier, may be three or four months in advance. Possibly, keep two or three possible dates so that failure to meet for one can result to defense on next date.
4. Fill in the Defense Announcement and send to the program co-director, two weeks prior to the proposal presentation.
5. A notification will be sent from the Ph.D. program co-director to all IS faculty, Ph.D. students and selective business school and other faculty to attend the proposal defense. Follow up with the program co-director if it is not sent. Dissertation proposal and defense presentations need to be notified to the appropriate academic unit/school.
6. The proposal presentation can span from 1 hour to 2 hours, including time for questions and answers. This will be an open-audience event.
7. After the presentation, the committee will immediately discuss the merits of the proposal in a private meeting and fill in the Dissertation Proposal Evaluation Form. The evaluation and decision of the committee will be immediately conveyed to the student after this meeting.
8. The evaluation should reflect the views of majority of the committee, and needs to be confirmed by the signatures of all the members of the committee; and be submitted to the business co-director of the CSIS Ph.D. program.
9. Note that the Proposal and Presentation is NOT a Graduate School event or requirement. The Graduate School needs to know the result of the final dissertation defense. There is NO NEED to inform or coordinate with the Graduate School for the Proposal Presentation.
10. Fill in the Dissertation Proposal portion of the “Ph.D. in Computer Science and Information Systems Degree Plan for Business School Students” and upload a copy to the Dissertation module in the Canvas Shell.

DISSERTATION DEFENSE

This is the fifth and final milestone of the program. In order to complete the program and obtain the degree, the doctoral candidate must successfully defend the dissertation to the dissertation committee (approved by the University Graduate School) and submit the dissertation to the Graduate School for further review and archiving.

The dissertation should be formatted as per the graduate school dissertation guidelines.

Process and Forms for Final Dissertation Defense

The following are the steps for the final dissertation and defense.

1. Think ahead about your final dissertation and deadlines. Do not wait till last moment.
2. If you want to graduate, check the Graduation Deadlines in the Students section of the Graduate School Website: http://www.ucdenver.edu/academics/colleges/Graduate-School/current/ Pages/resources.aspx. Graduation is possible only on specific dates. You have to work backward on your schedule to meet the deadlines.
3. The completed dissertation should be given to each committee member, and the program co-director at least two weeks before the dissertation defense. Failure to compliance to this guideline may lead the co-director to stop the proposal presentation and reschedule.
4. The student will schedule a dissertation defense presentation, in coordination with the committee members. Faculty is busy with number of responsibilities. Please coordinate this date much earlier, may be three or four months in advance. Possibly, keep two or three possible dates, so that failure to meet for one can result to defense on next date.
5. Fill in the "Exam Request" form of the Graduate School, available at the scroll down link for students, at : http://www.ucdenver.edu/academics/colleges/Graduate-School/current/Pages /resources.aspx. Note that this form is due AT LEAST two weeks prior to the date of the defense presentation. This form also works as the evaluation form for the dissertation defense.
6. Fill in the Defense Announcement and send to the program co-director, two weeks prior to the defense presentation.
7. A notification will be sent from the Ph.D. program co-director to all IS faculty, Ph.D. students and selective business school and other faculty to attend the defense. Follow up with the program co-director if it is not sent. Dissertation defense presentations need to be notified to the appropriate academic unit/school.
8. The proposal presentation can span from 1 hour to 2 hours, including time for questions and answers. This will be an open-audience event.
9. After the presentation, the committee will immediately discuss the merits of the dissertation in a private meeting and fill in the Evaluation in the Exam Request form. The evaluation and decision of the committee will be immediately conveyed to the student after this meeting. If some extensions or revisions are needed, that will be communicated to the student in written form by the committee chair.
10. Fill in the Dissertation Defense portion of the "Ph.D. in Computer Science and Information Systems Degree Plan for Business School Students" and upload a copy to the Dissertation module in the Canvas Shell.

JOB MARKET PREPARATIONS ALONG WITH DISSERTATION ACTIVITIES

Ph.D. process, as much as enlightening, it should culminate in your ultimate goal of an academic or industry research position. Indeed, job market orientation should start from the first day you enter into the Ph.D. program. Important questions to ask in different years of the program, for your career orientations, are given below. Internet is a good source for some of these questions, as there is no right or wrong answers to these.

Along with Admission

1. Who am I? What is my dream in life?
2. To achieve my dream, is Ph.D. a necessary part? Or, will I be wasting a significant part of my life (say 5 to 6 years)?
3. What are my three best reasons for doing the Ph.D.?
4. What do I want to achieve during and after my Ph.D. degree?
5. Do I have the characteristics for an academic career?

First Year

1. Am I being on the course to do my Ph.D.? Should I revisit my Ph.D. plan, or continue on it, given the grueling graduate student routine?
2. What is missing in my Ph.D. plan?
3. I am taking courses, but is not Ph.D. to do more research? How can I use my course-projects for research activities?
4. Do I have the characteristics for an academic career?
5. What is an academic career vs an industry job after Ph.D.?
6. Where to get more information about academic career? What I need to do now to orient my Ph.D. experience best for my academic career?
7. Which conferences I must go and attend?

Second Year

1. Did I survive, did well, or struggled in first year of Ph.D. program? Is my motivation and plan being still on course?
2. Am I in good shape regarding my research projects, along with courses and preparations for comprehensive examination?
3. Who should be my advisor, why? What is the best way to approach, and what are the aligned research projects?
4. Which conferences I should plan to present?
5. What other mentoring I may need, either from Advisor or from other faculty?

Third Year

1. Reflecting on past two years, what are my key improvement areas and strategies? Research formulation, conceptualization, positioning, theory development, methods and rigor, writing, presentation, multi-research tasking, or just being disciplined?
2. Since I have passed comps, what I need to advance to candidacy and to the dissertation stage?
3. What can be my possible topics for dissertation? How are the essays structured? What is the importance of my dissertation? How can I make it interesting? Etc.

4. How does my timeline in the next two years, w.r.t. committee formation, dissertation writing, proposal, defense etc. look like?
5. When should I submit my papers to conferences and journals? How many under-review papers I need for job market? Which ones will be in second-round and job market papers?
6. Did I teach a course by now, how did I do in teaching? Should I design a new on-demand course and try to offer it with another faculty-teaching-partner?
7. Did I attend some stellar job-market candidates' presentations during conference? In comparison, where do I stand?
8. Should I learn some methods that is recently being applied in the discipline, such as big data analysis, sentiment mining, or Bayesian economics? How can I plan to learn and apply this in my research and showcase my job-market abilities better?

Fourth Year

1. I am nearer finish line; how should I gear up for the last part of the course?
2. How am I looking in the overall picture of my academic life/career?
3. Am I all set in dissertation timeline? Did I discuss it with my advisor? What are the important modifications need to be done to make committee approve?
4. Where I am in the job search process? When the market opens? When the interviews happen? When to apply, what are possibilities, etc. Which level of schools I am looking at? Am I over-expecting or under-expecting? What is my best-case scenario, what is worst case scenario?
5. If I am not able to secure a position this year, what is my future plan? Should I discuss with my advisor/co-director?
6. Along with by research, did I learn reviewing, and other aligned service activities such as being a mini-track or session chair?
7. Did I prepare my job market packet—cover letter, vita, research statement, teaching statement, service statement, working papers, teaching evaluations, student comments, any other materials needed? How to be efficient in applying, if I am thinking of applying to 50-60 positions?
8. Who are my peers in other schools, possibly, I can meet them in doctoral consortiums? How to go to doctoral consortiums?

Resources to help you in managing Ph.D. Student Career:

- Firth, D., Germonprez, M., & Thatcher, J. (2014). Managing Your Ph.D. Student Career: How to Prepare for the Job Market. Communications of the Association of Information Systems, 34(5), pp.87-104.
- Dean, D.L., Lowry, P.B. and Humpherys, S., 2011. Profiling the research productivity of tenured information systems faculty at US institutions. 35(1), MIS Quarterly, pp.1-15.
- Austin, A.E., 2002. Preparing the next generation of faculty: Graduate school as socialization to the academic career. The Journal of Higher Education, 73(1), pp.94-122.

DISSERTATION SUBMISSION AND APPLY FOR GRADUATION

The student must complete the **Thesis Approval** available in the Graduate School website and submit his or her dissertation. The completed form must be submitted to the graduate school for review. The student should check with the Graduate School about deadlines for the dissertation defense and dissertation submission in the semester in which he or she wants to graduate. In addition, student should also fill in the online **Graduation Application Form, and follow the relevant process mentioned at:** http://www.ucdenver.edu/anschutz/studentresources/Registrar/PlanYourDegree/Pages/ApplyforGraduation.aspx **.**

Note that both the Thesis Approval and Graduation Application Forms are available on the Graduate School website: http://www.ucdenver.edu/academics/colleges/Graduate-School/current/ Pages/ resources.aspx.

COMMENCEMENT

If you plan to participate in commencement ceremonies, you will need to register for this separately at Commencement Online: http://www.ucdenver.edu/student-services/graduation/Pages/ Graduation.aspx.

The Doctor of Philosophy degree candidates are generally allowed to have a 'hooding ceremony/process' during the commencement program. During this, generally, the Advisor of the Candidate places the doctoral hood over the head of the graduate, signifying his or her success in completing the graduate program. The candidate can also choose another faculty, or multiple faculty to hood him or her. Generally, the CSIS Ph.D. Program Co-Director is also available during the commencement for hooding candidates. Check and follow appropriate procedure for hooding ceremony, without which you will just walk like other Masters' students during the commencement.

Yes. Take an appropriate photograph with your advisor, while dressed in academic attire during the commencement. Leave a copy of the photo with the CSIS Business School Ph.D. Program as memorabilia.

Once you walk the line of commencement, you graduate with your Ph.D. Degree. You have done a Ph.D. Pursue your academic or other interests continue to be a Ph.D. forever.

STAY IN TOUCH AFTER YOU GRADUATE,
YOU ARE OUR EXTENDED FAMILY!

PROGRAM ALUMNI

The academic strength of our Ph.D. Program has allowed our graduates over the years to be placed directly upon graduation as faculty members at different institutions. Some students have also taken up careers in industry. Here is a list of our Alumni. We are proud of them.

- Navid Aghakhani: University of Tennessee Chattanooga, 2017
- Michael Erskin: Metro State University, 2014, Middle Tennessee State University, 2017
- Bidyut Hazarika: Western Michigan University, 2016
- Yazan Alnsour: University of Illinois, Springfield, 2016
- Jae Choi: University of Pennsylvania, Bloomsburg, 2015
- Chris Sibona: University of North Carolina, Wilmington, 2014
- Mohammad Alsharo: IS Department, Al Albayt University, Jordan, 2014
- Jehad Imlawi: Information Systems Department, Al Albayt University, 2014
- Toan Ong: University of Colorado Denver, School of Medicine, 2013
- Joe Hasley, Metro State University, 2010
- Jon Brickey, Army Cyber Institute at West Point, 2010
- Andrea Hester, Southern Illinois University, 2009
- Bish Ghosh, Metro State University, 2007
- Chuck Wu, College of Management, Yuan Ze University, Taiwan, 2007

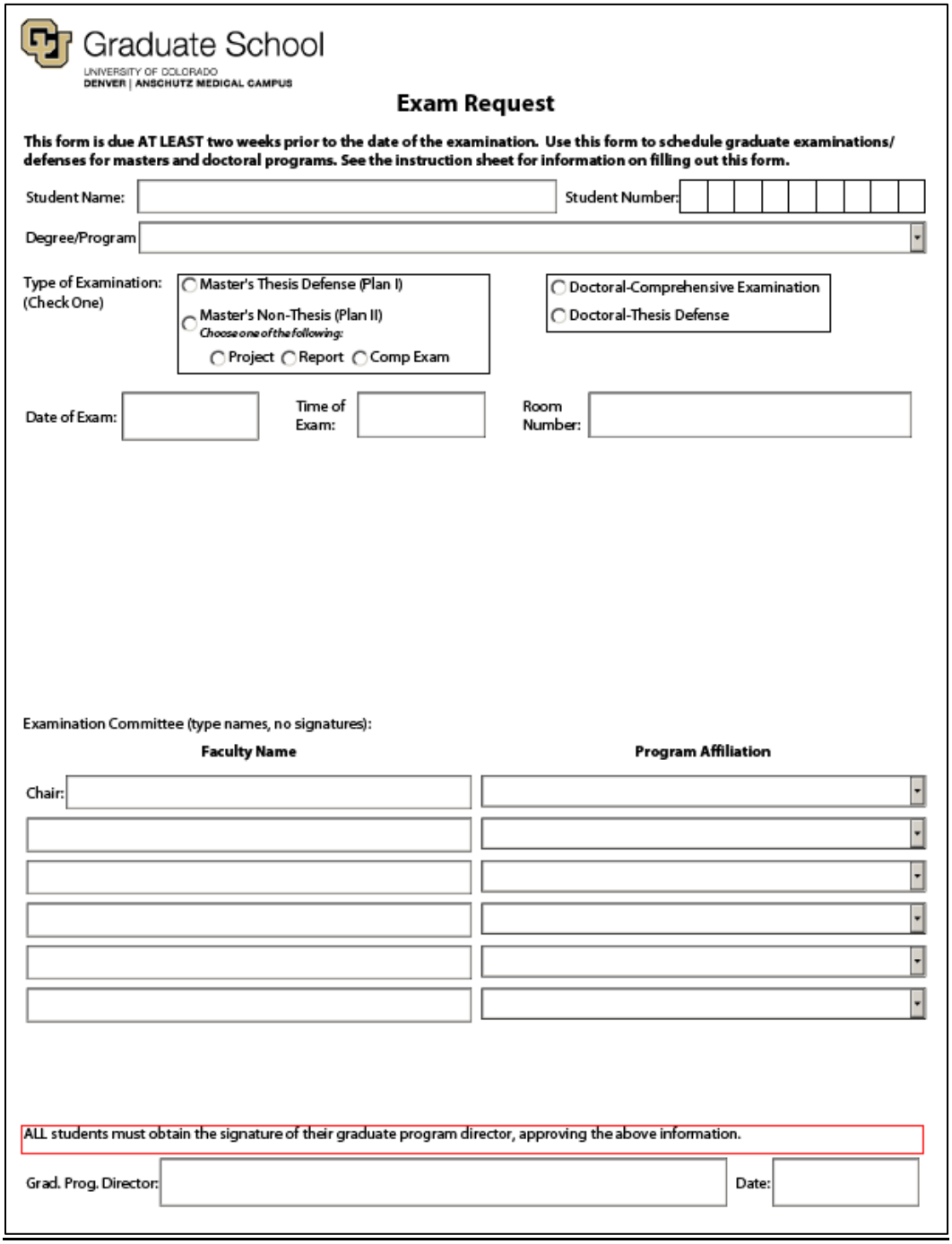
…. We are proud of you!!

APPENDIX

RELEVANT FORMS

COMPREHENSIVE EXAM REQUEST AND EVALUATION FORM

- The following is an image of the form to be used after the written and oral comprehensive exams are over. Please download the form (EXAM REQUEST.PDF) at the scroll down link for Students: Deadlines and Forms at http://www.ucdenver.edu/academics/colleges/Graduate-School/current/Pages/resources.aspx



Graduate School
UNIVERSITY OF COLORADO
DENVER | ANSCHUTZ MEDICAL CAMPUS

Exam Request

This form is due AT LEAST two weeks prior to the date of the examination. Use this form to schedule graduate examinations/ defenses for masters and doctoral programs. See the instruction sheet for information on filling out this form.

Student Name: Student Number:

Degree/Program

Type of Examination: (Check One)
- Master's Thesis Defense (Plan I)
- Master's Non-Thesis (Plan II) *Choose one of the following:* Project Report Comp Exam
- Doctoral-Comprehensive Examination
- Doctoral-Thesis Defense

Date of Exam: Time of Exam: Room Number:

Examination Committee (type names, no signatures):

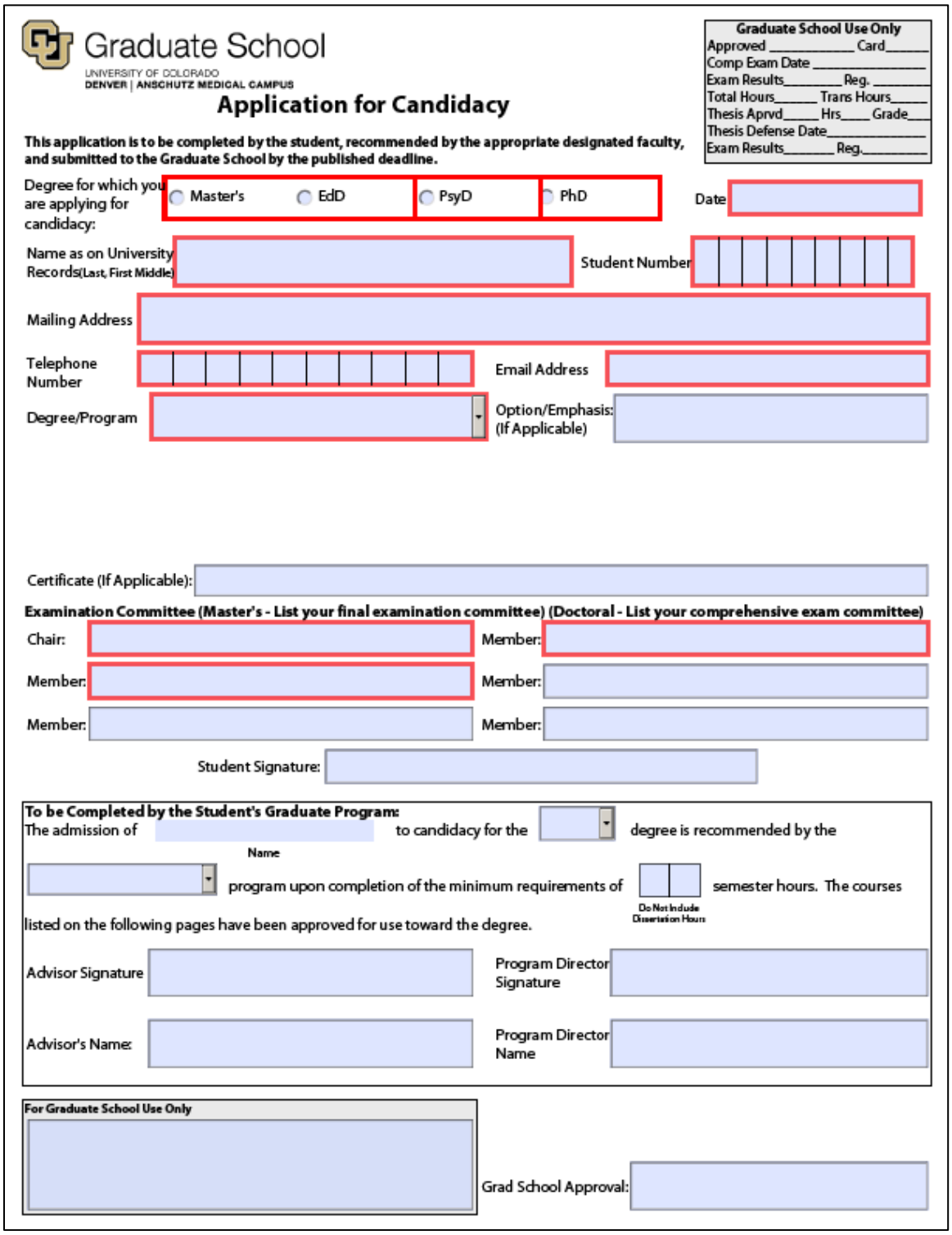
	Faculty Name	Program Affiliation
Chair:		

ALL students must obtain the signature of their graduate program director, approving the above information.

Grad. Prog. Director: Date:

APPLICATION FOR CANDIDACY FORM

The following is an image of the form. Please download the form (Application_for_candidancy.pdf) at the scroll down link for Students: Deadlines and Forms at http://www.ucdenver.edu/academics/colleges/Graduate-School/current/Pages/resources.aspx



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Application for Candidacy

Graduate School Use Only
Approved _____ Card_____
Comp Exam Date _____
Exam Results_____ Reg. _____
Total Hours_____ Trans Hours_____
Thesis Aprvd_____ Hrs____ Grade___
Thesis Defense Date_____
Exam Results_____ Reg._____

This application is to be completed by the student, recommended by the appropriate designated faculty, and submitted to the Graduate School by the published deadline.

Degree for which you are applying for candidacy: ○ Master's ○ EdD ○ PsyD ○ PhD Date

Name as on University Records(Last, First Middle) Student Number

Mailing Address

Telephone Number Email Address

Degree/Program Option/Emphasis: (If Applicable)

Certificate (If Applicable):

Examination Committee (Master's - List your final examination committee) (Doctoral - List your comprehensive exam committee)

Chair: Member:

Member: Member:

Member: Member:

Student Signature:

To be Completed by the Student's Graduate Program:
The admission of (Name) to candidacy for the ____ degree is recommended by the ____ program upon completion of the minimum requirements of ____ (Do Not Include Dissertation Hours) semester hours. The courses listed on the following pages have been approved for use toward the degree.

Advisor Signature Program Director Signature

Advisor's Name: Program Director Name

For Graduate School Use Only

Grad School Approval:

List courses below that will apply toward your degree in chronological order (beginning with the oldest and ending with the most current). Course numbers must match those on your transcript and instructors name must be include. YOU MAY NOT SIMPLY ATTACH A TRANSCRIPT. Transfer courses and thesis/dissertation/project/report hours should be listed in the appropriate sections of this form.

Instructor (First Initial, Last Name)	Semester	Year	Title of Courses Taken at University of Colorado	Department and Course Number	Semester Hours	Grade	Notes

For Graduate School Use Only
Subtotal:

Thesis, Dissertation, Research Paper, Project or Report Hours

Instructor (First Initial, Last Name)	Semester	Year	Thesis/Dissertation Project/Report	Department and Course Number	Semester Hours	Grade	Notes

For Graduate School Use Only
Subtotal:

Transfer Credits
Courses taken as non-degree an at other CU campuses are not considered transfer, since they appear on your transcript.

Institution at Which Courses were Taken	Semester	Year	Title of Courses to be Transferred	Department and Course Number	Semester Hours	Grade	Notes

For Graduate School Use Only
Subtotal:

Total:

DISSERTATION PROPOSAL PRESENTATION OR FINAL DISSERTATION DEFENSE ANNOUNCEMENT FORMATS

(Keep one of the above as appropriate to what is the purpose)

PROPOSAL PRESENTATION OR FINAL DISSERTATION DEFENSE ANNOUNCEMENT

Subject: IS Ph.D. Program Event: Dissertation Defense of ***Done Roe***

When and Where: October 20, 2017, 1:00 – 2:30 PM, BUS 6600

Dissertation Title: Information Systems and Work Place Empowerment

You may paste your most academically appropriate photo here, with the best smile. (optional)

Dissertation Committee: Professors Whit Manning, Mash Ax Lotter, …..

Abstract: This abstract should be shorter than your dissertation abstract. Highlight positioning, motivation, novelty, rigor, and contributions. Possibly, word it for general or outside of discipline audience, while balancing the academic flavor. Do mention how your dissertation is Nobel-worthy. Limit to 250 words maximum.

Bio: State your research interests, motivation for the research area, importance of your research and dissertation work, teaching interests, what you have taught in business school, what you did prior to that, MS and MBA degree, work experience. What are your plans after that. Highlight your placement obtained, or plans for that. No more than 250 words.

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DISSERTATION PROPOSAL EVALUATION FORM

Note: This form is not available at the graduate school website. This is a program requirement. The form is filled in and is submitted to the Program Co-Director of CSIS Business Ph.D. Program

Name of Candidate:

Dissertation Proposal Title**:**

Proposal Presentation Date:

Evaluation Results **Please Write Yes or Mark One Choice**

1. Accepted without revisions
2. Accepted with minor revisions
3. Accepted with major revisions
4. Not acceptable

Note: if second or third choices are selected, the committee need list the necessary minor or major revisions as the evaluation comments in next page. If the not acceptable is evaluated, the committee will note a justification and necessary corrective action to be taken by the candidate.

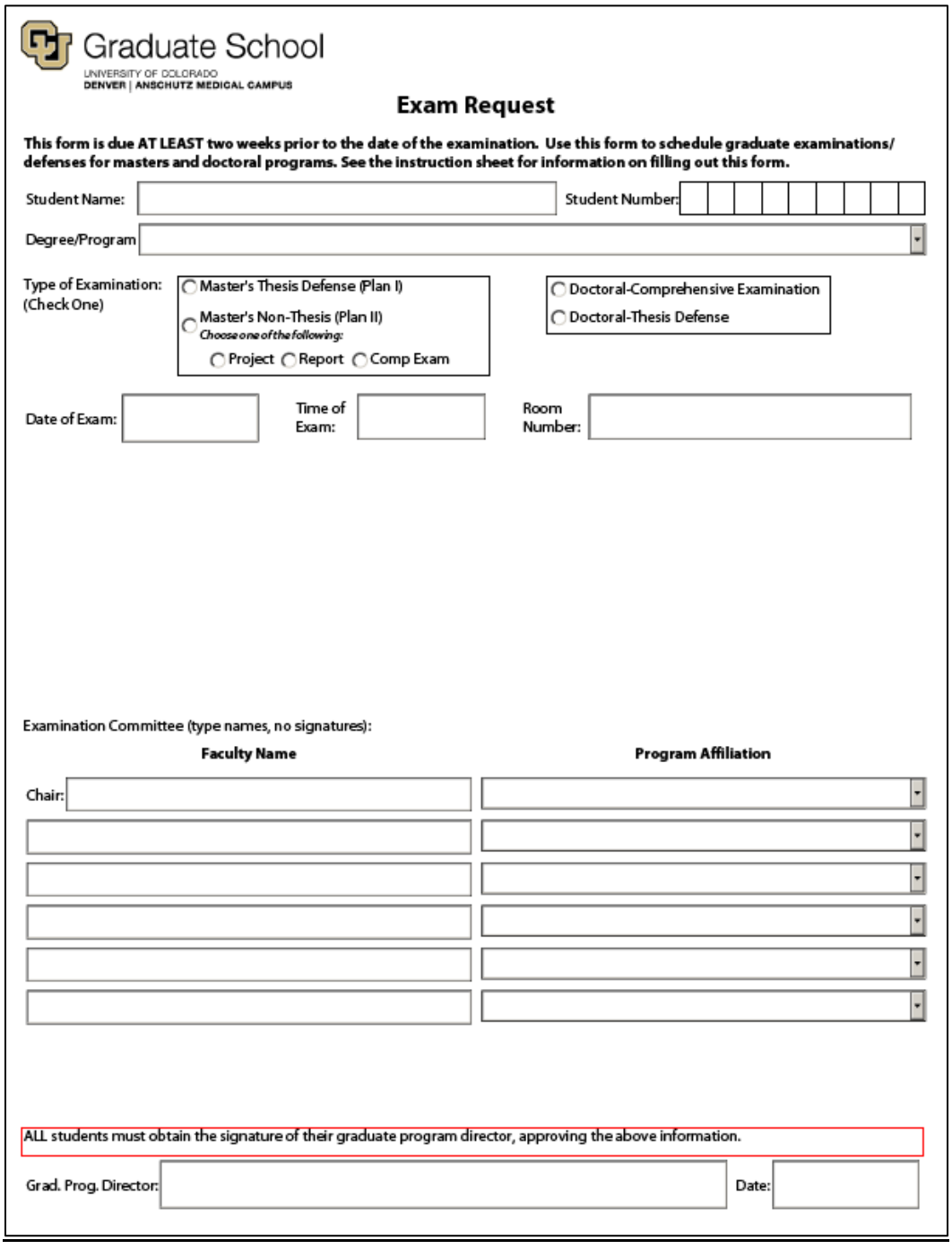
Committee/Role	Name	Signature and Date
Chair:		
Advisor:		
Committee Member 1:		
Committee Member 2:		
Committee Member 3:		
Committee Member 4:		
Committee Member 5:		

EVALUATION COMMENTS

The committee will list the necessary minor or major revisions, justification for not acceptable results or necessary corrective action based on the evaluation in this page. If it is appropriate, the committee may list highlights or significant contributions of the proposal or dissertation.

DISSRTATION DEFENSE REQUEST AND EVALUATION FORM

- The following is an image of the form to be used after the written and oral comprehensive exams are over. Please download the form (EXAM REQUEST.PDF) at the scroll down link for Students: Deadlines and Forms at http://www.ucdenver.edu/academics/colleges/Graduate-School/current/Pages/resources.aspx



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Exam Request

This form is due AT LEAST two weeks prior to the date of the examination. Use this form to schedule graduate examinations/ defenses for masters and doctoral programs. See the instruction sheet for information on filling out this form.

Student Name: Student Number:

Degree/Program

Type of Examination: (Check One)
- Master's Thesis Defense (Plan I)
- Master's Non-Thesis (Plan II) *Choose one of the following:* Project Report Comp Exam
- Doctoral-Comprehensive Examination
- Doctoral-Thesis Defense

Date of Exam: Time of Exam: Room Number:

Examination Committee (type names, no signatures):

	Faculty Name	Program Affiliation
Chair:		

ALL students must obtain the signature of their graduate program director, approving the above information.

Grad. Prog. Director: Date:

THESIS APPROVAL FORM

Graduate School
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Thesis Approval

The final copy of this thesis/dissertation has been examined by the undersigned, and we find that both the content and the form meet acceptable presentation and scholarly standards of work in the discipline listed below. We approve its publication.

Student Name: _____ Student Number: _____

Degree, Program _____ Graduation Term _____ _____

Thesis Title (Enter text in upper and lower case) _____

Is your thesis advisor serving on your committee? ◯ Yes ◯ No

Date: _____
To be dated by your Chair upon signing

Required Signatures for Approval of the Thesis/Dissertation

Please type faculty names first then last, with no degrees or titles.

			Approved	
Committee Chair	Type Committee Chair's Name	Committee Chair's Original Signature	Yes	No
Thesis Advisor (If Applicable)	Type Thesis Advisor's Name	Thesis Advisor's Original Signature	Yes	No
Thesis Co-Advisor (If Applicable)	Type Thesis Co-Advisor's Name	Thesis Co-Advisor's Original Signature	Yes	No
Committee Member	Type Committee Member's Name	Committee Member's Original Signature	Yes	No
Committee Member	Type Committee Member's Name	Committee Member's Original Signature	Yes	No
Committee Member	Type Committee Member's Name	Committee Member's Original Signature	Yes	No
Committee Member	Type Committee Member's Name	Committee Member's Original Signature	Yes	No
Committee Member	Type Committee Member's Name	Committee Member's Original Signature	Yes	No

Electronic Submission Approved by Graduate School

Date: _____

Once all signatures have been obtained, please submit this form to the Graduate School:
Anschutz Medical Campus: Academic Office 1, Room 1503
Downtown Denver Campus: Lawrence Street Center Suite 1250

THE DEGREE PLAN TRACKING FORM

(This is an image. The form is available in the Canvas Shell, and also with Program Co-Director)

Ph.D. in Computer Science and Information Systems Degree Plan for Business School Students

Name:	Student Number:

The Ph.D. program includes at least 30 hours of course work beyond the Master's level. At least 30 additional credit hours of dissertation work are also required. Students not holding a master's degree in IS and demonstrating sufficient skills may need to take additional coursework prior to the start of their Ph.D. program.

General Requirements of the Program

Each student will develop a detailed program plan with the consultation of their department advisor to outline two years of required course work, take the written comprehensive exam, fulfill their teaching requirement, and complete their dissertation. Besides these general requirements, students should work with faculty on various research assignments that ultimately may be published in top ranked IS journals.

Post-Admission and Prior to Start of Ph.D. Program

Admitted Business School Ph.D. students will be assessed for core knowledge in the areas of technology, mathematics/statistics, and professional writing. These requirements may be waived if the admitted student demonstrates sufficient skill and prior education or professional experience. Any student admitted without sufficient skills may be required to take at least one course in each area. Generally, these are Masters level courses. Required prerequisite courses will be determined in consultation with the IS Ph.D. program director. Ideally, requirements must be fulfilled prior to enrollment into the Ph.D. program. No Ph.D. program funding is guaranteed until all required prerequisites are completed.

Skills Assessment

For students with an MSIS degree, technology knowledge courses may not be necessary. However, mathematics/statistics and writing skills will be assessed and prerequisite courses may be required. For students with another master's degree such as an MBA, technology knowledge, mathematics/statistics knowledge, and writing capabilities will be assessed and one or more prerequisite courses may be necessary.

A waiver of technology knowledge courses may be obtained from the MSIS discipline director. The MSIS discipline director must approve the waiver of any MSIS course listed below if you do not have an MSIS or equivalent degree. Waiver petitions must be submitted through the Business School Advising Office and all approved waivers must become part of your student file for the Ph.D. degree audit.

Knowledge Area: Technical		Term	Grade
ISMG 6040	Business Systems Design	____	____
ISMG 6060	Systems Analysis and Design	____	____
ISMG 6080	Database Management Systems	____	____
ISMG 6120	Data Communications	____	____
ISMG 6180	IS Management and Strategy	____	____
Knowledge Area: Mathematics/Statistics			
MATH 1070	College Algebra or equivalent	____	____
MATH 1080	Calculus I / II	____	____
BANA 6610	Master's Level Statistics	____	____
Knowledge Area: Writing			
ENGL 3171	Professional Writing Capability	____	____

CSIS Ph.D. Degree Plan

Business School IS Ph.D. students should complete at least 60 credit units of coursework. This includes 30 units of Ph.D. level IS theory-based and research methods courses and 30 dissertation topic units. Students generally complete the IS theory-based and methods coursework within the first two years of their program. After the first year, during the summer, students will work on a summer research project. A paper based on that project is to be submitted and presented to the faculty in a research seminar setting at the beginning of the second year. After completing all coursework, students immediately take a comprehensive exam, typically during the Maymester time-period if finishing coursework in the Spring. Following successful completion of the comprehensive exam, students begin work on their dissertation research during the summer before the start of their 3rd year. The dissertation is an independent research project conducted by the student under supervision of a dissertation committee assembled by the student. It is strongly recommended that students conduct research consistent with the research interests of current faculty. These topics include Behavioral, Organizational, Economics, and Social issues related to information systems.

Course Work

CSIS Required Core IS Ph.D. Seminar Courses (3 courses*, 9 credit hours)

*All students must take ISMG PHD1 and ISMG 7211. Select 1 course, ISMG PHD2 or ISMG 7210.

		Term	Grade
ISMG PHD1	Philosophy of Science	____	____
ISMG 7211	Research Themes in Information Systems	____	____
ISMG PHD2	Strategic and Organizational Research in IS	____	____
ISMG 7210	Analytics Research in Information Systems	____	____

CSIS Required Core IS Method Ph.D. Courses (3 courses, 9 credit hours)

ISMG 7200	Foundational Research Methods in IS Research	____	____
ISMG PHM1	Qualitative and Mixed Methods in IS Research	____	____
ISMG 7220	SEM and Regression Techniques in IS Research	____	____

CSIS Required Courses Outside of Business School (Minimum 4 courses, 12 credit hours)

Students must take

- CSCI 7799 or equivalent

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- One CSCI Breadth Course. Students can take any one computer science course most appropriate for Ph.D. students, with consent from the student's advisor and the Ph.D. program co-director. An updated list is available with the program director based on the CS department recommendations. An example of a course is CSCI 7765-Computer Networks.
- Two Required Ph.D. Level Advanced Research methods Courses (6 credits): In consultation with Advisor, students must take two advanced research methods courses. The student may choose two multivariate statistics courses (for behavioral research), or two econometrics courses (for IS economics and strategy oriented research), or two qualitative research methods courses (for qualitative research).

Outside Courses		Term	Grade
CSCI 7799	CSCI Doctoral Course	_____	_____
CSCI ____	_____ (CSCI Breadth course)	_____	_____
____ ____	_____ (Advanced Methods 1)	_____	_____
____ ____	_____ (Advanced Methods 2)	_____	_____

Additional Coursework

Students are encouraged to take additional elective and methods courses depending on their area of research interest and academic plans. These courses are optional based and are not required of the PhD program. The goal of these courses is to provide students with breadth courses in an IS related area of research.

Additional Courses		Term	Grade
1. ____ ____	_____	_____	_____
2. ____ ____	_____	_____	_____
3. ____ ____	_____	_____	_____
4. ____ ____	_____	_____	_____

Preliminary Examination

The preliminary examination is the first milestone in the program. Successful completion of four IS core-courses, with at least A- grade in each one, is considered as completion of prelims examinations. Else, the student will take a preliminary examination designed by the PhD program director.

Date Taken _____Grade_____ Waived _____ PhD Program Director Signature_____

Comprehensive Examination

The comprehensive examination is the second milestone in the program. The comprehensive exam is oriented towards 'complete IS research' objectives and performance on the exam should reflect a students' command of relevant literature, research methods, a research agenda, and research project operation and completion. Completion of the comprehensive examination demonstrates a student's capability to complete, with guidance, valued IS academic research. The student is then able to the third and fourth year of the program with high probability of success in execution of a quality Ph.D. dissertation. Failure of the comprehensive examination will result in termination of a student's program. In extraordinary circumstances, only one retake may be taken 30 days after the initial examination, upon majority vote of the 3 person comprehensive exam committee and the PhD director. The comprehensive exam will consist of two major components completed at two different dates:

- A comprehensive written examination will be held at the beginning of the summer immediately following the end of the student's 2nd year (June 1). The written examination will test of IS research subject knowledge, methods, and application to research. It will be take home in nature, with choice of questions, but need to be submitted in 48 hours.
- A comprehensive oral examination will be held toward the end of the summer immediately following the end of the student's 2nd year (by July 31). The structure of the oral examination will consist of students presenting a research paper that they are already working on (see timeline for possible papers at the end of this document). The presentation must focus on a literature review, identifications key research gaps, creation of valuable research questions, and introduction of a theory-based model and measurement plan for conducting a potential, future research project. The future research project can involve only a proposed plan research. No written paper needs to be submitted for the oral part of the exam; however, students are encouraged to send the paper at the foundation of the oral exam, to the faculty, at least 7 days in advance of the exam date and time.

Written comprehensive exam date_____Pass/Fail_____

Oral comprehensive exam date _____ Pass/Fail_____ PhD Program Director Signature_____

Advancement to Candidacy

This is the third milestone of the program. Upon completion of all required course work, passing of the preliminary (or, waiver with successful core course completions), comprehensive exam and successful completion of any working papers, students may advance to candidacy. Students are required to submit at least one working paper before they can advance to candidacy. The paper needs to be completed and presented to the department faculty. Advisor(s) will sign off on the paper requirement. Advancement to candidacy is the transition of moving from student to scholar or doctoral candidate. This should be done no later than the end of the third academic year. When students advance, they are automatically registered for their dissertation credits each academic semester until successful completion of the program.

Advanced to candidacy on date: _____ PhD Program Director Signature _____

Dissertation Credit (30 hours): ISMG8990

Students must complete at least 30 dissertation hours in order to graduate. In general, dissertation hours should be taken in third year, after passing comprehensive exam. Student should enroll for 6 dissertation hours in each fall, spring and summer semesters in the third and fourth years of the program. After completing 30 hours of dissertation hours, a student need only register for 1 hour for each fall and spring semester until successful dissertation defense. Students who are unable to register for these minimum credits because of extenuating personal circumstances should apply for a leave of absence as explained in section (IV.E.9.) of the Graduate School handbook.

Year 3: Semester 1	Dissertation hours (6): Supervising faculty:
Year 3: Semester 2	Dissertation hours (6): Supervising faculty:
Year 3: Summer	Dissertation hours (6): Supervising faculty:
Year 4: Semester 1	Dissertation hours (6): Supervising faculty:
Year 4: Semester 2	Dissertation hours (6): Supervising faculty:

Total Dissertation hours: _____ PhD Program Director Signature _____

Dissertation Advisory Committee

After selecting a dissertation advisor, the student, in collaboration with his or her dissertation advisor, will choose a Dissertation Advisory Committee, subject to approval of the graduate Program Director. Although it is recommended that the Dissertation Advisory Committee be the same as the Dissertation Examination Committee, the two committees need not be identical. Although the student's dissertation advisor may not chair the Comprehensive or Dissertation Examination Committees, Programs are given the flexibility to permit, or prohibit, the student's advisor to serve as Chair of the Dissertation Advisory Committee. The Dissertation Advisory Committee will serve an advisory function to the student and dissertation advisor and will also monitor the student's progress towards completing the dissertation. The Dissertation Advisory Committee will determine when the student has made sufficient progress to begin writing his or her dissertation.

All PhD students who have advanced to candidacy must meet with their Dissertation Advisory Committee at least once every year, although some Programs may require – and the Graduate School encourages – a greater frequency of meetings. It is the student's responsibility to identify the best available time and schedule the meeting. The Dissertation Advisory Committee shall evaluate the student's progress to ensure that s/he has made satisfactory progress since the previous meeting. The Committee Chair will complete the Dissertation Advisory Committee meeting form summarizing the student's progress, or lack thereof, and send copies to the student, the primary mentor if not the Chair, the Program Director and the Graduate Dean. In case of non-satisfactory performance, steps to be taken to rectify the situation should be suggested in the report. If a student fails to meet with their Dissertation Advisory Committee within the previous 12 months, the Graduate School will notify the student and dissertation advisor that the committee must meet within the next four (4) weeks. Students who fail to have a Dissertation Advisory Committee meeting by the end of this four (4) week probationary period will not be permitted to register for subsequent semesters. Once the student is in compliance with this rule, s/he will be permitted to register.

Advisor:

Committee Members:

First date the committee met (or coordinated online):

Second date the committee met (or coordinated online):

Subsequent date/s the committee met (or coordinated online) (if extended beyond four years):

Dissertation Proposal

This is the fourth milestone of the program. All doctoral candidates must propose their dissertation no later than the end of their fourth academic year to ensure satisfactory progress in the program and thus fifth year funding. The dissertation proposal requires the doctoral candidate not only to assemble a dissertation committee, but also to propose their dissertation research and prepare for successful completion of the dissertation defense.

Dissertation Proposal Title:

Proposal Approval Date:

Advisor Name: Signature:

Committee Members:

Dissertation Defense

This is the fifth and final milestone of the program. In order to complete the program and obtain the degree, the doctoral candidate must successfully defend the dissertation to the dissertation committee (approved by the University Graduate School) and submit the dissertation to the Graduate School for further review and archiving.

Dissertation Title:

Defense Date:

Advisor Name: Signature:

Committee Members:

Dissertation Submission

The student must complete the Thesis Submission Sheet available in the Graduate School website. The completed sheet must be submitted to the graduate school for review. The student should check with the Graduate School about deadlines for the dissertation defense and dissertation submission in the semester in which he or she wants to graduate.

Dissertation Title:

Date Submitted to Graduate School:

Date Approved by Graduate School:

CSIS Business School PhD Program Training

IS Ph.D. Business students will complete coursework and training in the following areas: (1) course based training, (2) apprenticeship, (3) teaching preparations, (4) scholarly and community engagement.

The course program component focuses on training students on how to perform quality academic research.

The apprenticeship component involves the completion of research projects with faculty. Faculty will work as advisors and consultants to assist students in the completion of quality research projects. Faculty will not execute student research, but will oversee the rigor, relevance, accuracy, design, and completion of research projects. A faculty advisor will actively guide students in the completion of their Ph.D. degree as well as job placement in tenure track positions at research universities.

The teaching component involves training students in teaching pedagogy, the teaching process, and methods for course design and assessment. During the PhD program, students are expected to teach at least one undergraduate IS course and serve as teaching assistants in graduate level courses. This effort will contribute to a student's financial standing throughout the PhD program as well as experience the design and execution of an IS course.

The scholarly and community engagement component involves conference attendance, organizing conference or seminar tracks/sessions, reviewing paper submissions, and serving as editorial assistants to faculty. For students to be successful in this area, a Friday-Seminar series (compulsory) will be organized by third year Ph.D. students. Students will organize seminar speakers from outside the university or inside the school, conduct research round-tables, and will encourage students to discuss and present their work.

Recommended Schedule and Milestones for Business School CSIS Ph.D. Students

Year & Semester	Milestones	Year & Semester	Milestones
Year 1, Semester 1	Coursework - ISMG PHD1 - ISMG 7200 - Advanced Research Method Initiate research project 1 (RP1) with faculty.	Year 1, Semester 2	Coursework - ISMG 7211 - ISMG PHM1 - Advanced Methods Research Complete research project 1 (RP1) with faculty Work on at least one publication for submission to a conference
Year 1, Summer	Prelims examinations. Conduct independent research with faculty advisor; be ready with a rough draft by end of summer. Continue writing and improving the paper for presentation in year-2.		
Year 2, Semester 1	Coursework - CS Breadth Course - ISMG 7220 Initiative research project 2(RP2) with advisor	Year 2, Semester 2	Coursework - ISMG PHD2 - CSCI Complete research project 2(RP2) with advisor for submission to a conference
Year 2, Summer	Comprehensive examinations Develop preliminary ideas for a dissertation topic		
Year 3, Semester 1	Dissertation hours (6) Conduct research for dissertation proposal (at least two essays, three is better), with focus on literature review, research questions and proposed methods	Year 3, Semester 2	Dissertation hours (6) Dissertation first study should be complete or near to completion
Year 3, summer	Dissertation hours (6) Dissertation proposal submission to committee for review and finalization Finish Dissertation Essay 1 and plan for submission to journal		
Year 4, Semester 1	Dissertation hours (6) Defend proposal HICSS and ICIS paper submissions Research seminar presentation and Job Preparation (Complete enough of dissertation to be able to interview at the International Conference on Information Systems (ICIS) in December)	Year 4, Semester 2	Dissertation hours (6) Campus interviews, finalize/negotiate job offers Finish and defense dissertation Prepare dissertation journal articles

OTHER FORMS

A set of other forms are available at the Graduate School website:
http://www.ucdenver.edu/academics/colleges/Graduate-School/current/Pages/resources.aspx

The other forms (not listed in this handbook) are:

- Biographical Sketch
- Course Validation Form
- Provisional Admission
- Leave of Absence
- Request for Program Transfer
- Request for Time Extension
- Request for Transfer of Credit …etc.

The forms are all fillable PDFs and can be completed online and printed. Students that have the full version of Acrobat Professional will be able to sign the forms and forward them for additional approval and signatures. Students with the Adobe Reader can complete the form online, print it, sign it and forward it for approval and signatures.

Get yourself acquainted with the Graduate School website. It is a good idea also to walk into the Graduate School office, after taking an appointment, and make yourself familiar with the staff and advisors there, who may be of help to you at the time of need.

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