Ph.D. In Computer Science
HANDBOOK

Innovative, Cutting Edge, Theoretical Foundations, Driven by Real-World Problems

Revised Aug 2023

Preface

This Ph.D. handbook sets forth the policies, requirements, and expectations for the Computer Science Ph.D. (CS Ph.D.) program at the Kennesaw State University (KSU). All students enrolled in the CS Ph.D. program are required to familiarize themselves with this handbook, the University Graduate Catalog and other relevant University policies, requirements, and procedures. *In case of a conflict or inconsistency in information, the Graduate Catalog prevails.*

This handbook only serves as a guide to existing policies, requirements, and expectations of the CS Ph.D. program at KSU. This handbook does not represent a contract between the student and the program administration, and the policies, requirements, and expectations are subject to change from time to time. It is your responsibility to check with the CS Ph.D. Program Director or the Program Coordinator what the latest policies, requirements, and expectations are. That said, the Ph.D. program committee will make every attempt to keep this handbook updated and any major changes to the program policies will be announced to all the students in the program with reasonable and sufficient time provided for implementation.

Any policies, requirements, and expectations not covered under this handbook, related to the CS Ph.D. program, fall under the purview of the Admissions and Curriculum Committee (ACC) for the CS Ph.D. program, the Director of the CS Ph.D. program, or the College Administration. ACC or the Director can also reevaluate policies, requirements, and expectations set forth in this document under circumstances determined exceptional.

Quick Links and Resources

Program Director

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Director of Computer Science Ph.D. Program and Associate Professor of Computer Science

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Program Coordinator

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Graduate College Orientation

The graduate college at KSU provides an online orientation to the graduate students: https://gradorientation.kennesaw.edu/

Other Useful links
- Computer Science Ph.D. program homepage: https://www.kennesaw.edu/degrees-programs/doctoral-degrees/computer-science.php
- Graduate Admissions: https://www.kennesaw.edu/admissions/graduate/index.php
- Graduate College student portal: https://graduate.kennesaw.edu/student-resources/
- Graduate catalog: https://catalog.kennesaw.edu/index.php
- Graduate college forms: https://graduate.kennesaw.edu/forms/student-forms.php
- Graduate writing program: https://writingcenter.kennesaw.edu/gwp/index.php
- Office of the registrar: https://registrar.kennesaw.edu/
- Kennesaw State University student portal: https://www.kennesaw.edu/current-students/
- Parking and transportation: https://www.kennesaw.edu/parking/
- Student health insurance: https://registrar.kennesaw.edu/student-resources/student-insurance.php
- Commencement: https://www.kennesaw.edu/commencement/

Additional links
- International Student and Scholar Services: https://dga.kennesaw.edu/isss/
- English language program: https://writingcenter.kennesaw.edu/elp/
- International student health insurance: https://dga.kennesaw.edu/isss/insurance.php
- Cultural Awareness and Resource Center: https://carc.kennesaw.edu/index.php
- International Student Association: https://kennesawisa.wixsite.com/kennesawisa

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1. Program Overview

1.1. Program Description

The Computer Science Ph.D. program is an innovative program that blends the highest level of theoretical foundations with the practice of Computer Science. By using state-of-the-art computing technologies to meet current and projected market demands for Computer Science experts in academia, industry, and government sectors, the program will produce cutting-edge researchers and well-prepared educators.

The students will be involved in innovative research projects and gain expertise in advanced computer science areas such as artificial intelligence, data engineering/science, computer and network security, information technology, and software engineering, which are in high demand in the region and beyond. This program is unique in that the students can tailor their research focus to their professional goals, by aligning towards academia or the applied research needs of industry. The program provides students with opportunities in computer science research, advanced project development, and industrial internships.

1.2. Program Mission

The proposed Computer Science Ph.D. program aligns with the mission of Kennesaw State University (KSU) by resourcefully a) filling a gap in the Georgia workforce and b) advancing the institutional research mission. The core of Kennesaw State's mission is to create an educated workforce for the state of Georgia. This is reflected in the first line of KSU's mission statement: "At Kennesaw State, we serve as a powerful example of the impact a student-centered, research-driven university education can deliver."

The envisioned program leverages existing strengths within the College of Computing and Software Engineering. Students in the program are required to take a comprehensive (qualifying) examination, CS Core Courses, about 30 hours of research, and defend a dissertation proposal, and a final dissertation to graduate. However, the role of a Ph.D. program has changed over the years and many graduates do not take academic roles. According to the Computing Research Agency's 2020 Taulbee survey, only about 30% of those with terminal degrees in computing enter academia. Keeping this in mind, the Computer Science Ph.D. program is designed as an innovative program that aligns with the applied research needs of the industry. This approach does not preclude graduates from entering tenure-track positions, but instead broadens and better prepares them for additional opportunities. The program is envisioned to take 4-5 years to complete for full-time students. It leverages our existing research clusters (and curriculum) in the areas of artificial intelligence, data engineering/science, computer and network security, information technology, software engineering, game design, cybersecurity, and quantum computing, which are in high demand in the region and beyond.

1.3. Benefits of a CS Ph.D. at Kennesaw State University

- **Customized Research –** Conduct innovative research projects tailored to student's specific professional goals, whether in academia or the applied research needs of industry.
- **Study Flexibility –** Gain valuable expertise in advanced areas of study, including artificial intelligence, immersive technologies, computer and network security, quantum computing, information technology, software engineering, data engineering/science and project development.
- **Internships –** You will have many opportunities to gain hands-on, real-world experience by participating in internships during your time in the program, preparing you to advance in your career.
- **Practical Skill Application –** Develop practical CS and research skills that can be applied to high-paying industry fields immediately upon graduation.
- **Graduate Research/Teaching Assistantships –** Admitted full-time students, in good standing, are funded (contingent on availability of funds) through the duration of the program, receiving a *competitive* Graduate Research Assistant (GRA) or Graduate Teaching Assistant (GTA) stipend and tuition waivers.

2. Program Structure

2.1. Program Administration

2.1.1. Program Director

The Computer Science Ph.D. program is managed by the Program Director, who is responsible for all day-to-day aspects of the program such as enforcing the policies and procedures of the program, providing guidance for drafting new policies and procedures necessary to run the program, and representing the Program Faculty as well as students enrolled in the program within and outside the University. The Program Director acts as the primary point-of-contact for the program.

2.1.2. Program Committee

The CS Ph.D. program is administered by the Admissions and Curriculum Committee (ACC) for the CS Ph.D. program. ACC is typically formed of the CS Ph.D. program paculty. Among other tasks, ACC:
- o May draft and enforce policies, procedures, and timelines related to the Ph.D. program.
- o Reviews applications for Ph.D. applications providing admission recommendations to the Program Director.
- o Reviews and approves student committees, and other curriculum related requests.
- o Reviews student petitions, appeals, and requests.
- o Conducts annual review of students in the program.

2.1.3. Program Faculty

The program faculty for the Computer Science Ph.D. program consists of graduate faculty members from the College of Computing and Software Engineering, with a Ph.D. degree in Computer Science or closely related areas. Program faculty members may teach courses, supervise students enrolled in the program, participate in comprehensive exam, and serve on dissertation committees (for proposal defense and dissertation defense).

2.2. Research Areas

The program faculty of the CS Ph.D. program conducts research in cutting edge research areas of computer science. These areas at present include but not limited to:

• Algorithm Design and Analysis of Networks • Artificial Intelligence • Augmented Reality/Virtual Reality • Big Data Analytics • Biometrics • Cloud Computing • Computer Vision • Computing Education • Cryptography • Cyber Physical Systems • Data Mining • Bioinformatics • Computational Sciences	• Deep Learning • Edge Computing • High Performance Computing • Internet of Things – IoT • Machine Learning • Operating Systems • Parallel Computing Systems • Privacy • Quantum Computing • Security • Sensor Networks • Natural Language Processing • Information Retrieval

Students are advised to review the list of faculty members from individual departments in College of Computing and Software Engineering.

3. Admissions

3.1. Admission Requirements

3.1.1. Qualifications and Eligibility

The program committee considers several factors when making admissions decisions, including academic performance at prior institutions, statement of purpose, and letters of recommendation. GRE scores are optional.

Specific requirements for admissions into the CS Ph.D. program include:
- Undergraduate or graduate degree in Computer Science or a related field from an accredited university. Other degrees are considered on a case-by-case basis for those who show extraordinary background.
- A cumulative GPA of at least 3.25 from an undergraduate degree or 3.5 from a graduate degree (on a 4.0 grade scale). Lower GPA is considered on a case-by-case basis for those who show extraordinary background.
- GRE Score Report - (*Optional*).
  - If you do wish to submit a GRE report, request that your scores be sent electronically to KSU (school code 5359). No department code is necessary.
- Successful completion of Math courses such as Calculus II and Discrete Math, and the computer science Data Structure course.

General admission requirements include:
- Meet all KSU Graduate College Admission Requirements.
- Pay the online graduate application fees.
- Official transcripts from EACH regionally accredited College and/or University you have attended. Must be in a sealed envelope from the institution or sent electronically from the institution directly to ksugrad@kennesaw.edu. See additional requirements for transcript evaluation for international students below.
- Resume or CV
- Statement of how this degree facilitates your career goals, recent accomplishments and activities, and research interest.
- Three Letters of Recommendation from academic or professional contacts.
- Official TOEFL or IELTS scores for international students. To check if you are exempt visit: https://www.kennesaw.edu/admissions/graduate/application-process/international.php

3.1.2. Application Deadlines

Please see: Ph.D. in Computer Science - Department of Computer Science (kennesaw.edu) for the latest information.

3.1.3. Additional Requirements for International Students

English Test – Please check admissions requirements above and consult the website of Graduate Admissions (https://www.kennesaw.edu/admissions/graduate/index.php) for additional requirements.

Transcript Evaluation - International applicants are also required to provide an official evaluation of all foreign transcripts performed by a KSU-approved agency. Please consult graduate admissions website for a list of KSU approved agencies (https://www.kennesaw.edu/admissions/graduate/application-process/international.php)

VISA/Work Permit/Immigration Issues: The International Student and Scholar Services (ISSS) office handles these issues. To get most accurate and up-to-date information about your specific case, please contact them: https://dga.kennesaw.edu/isss/index.php. VISA/Work Permit/Immigration Issues, however, are not a part of application evaluation process.

3.2. Application Evaluation Process for Admissions

Applications are submitted to the Office of Graduate Admissions and checked for completeness. Once the complete applications are received by the Program Director, it is reviewed for program specific requirements.

If all requirements are met:
- The application is forwarded to the ACC for review.
- The program conducts interviews of shortlisted candidates and makes recommendations for admission and funding, where applicable, to the Program Director.
- The Program Director reviews the committee's recommendations and provides a final decision on admission to the Office of Graduate Admissions after obtaining Dean's approval.

4. Progression through the Program

4.1. Comprehensive Examination (Qualifying Examination)

The Comprehensive Examination, sometimes also called qualifying examination, is one of the most important milestones in a student's doctoral program journey. The comprehensive examination for the CS Ph.D. students at KSU consists of two components:

4.1.1. Breadth Component

All CS Ph.D. students must first finish core courses in the program while obtaining at least 4 As and 2 Bs.

Exception: If a full-time Ph.D. student taking three courses in the first semester obtains 3 Bs in their core courses, they may request a written examination, by the end of the following semester, for one of the subject areas that they obtained a B in the previous semester.

4.1.2. Depth Component

Timeline: A CS Ph.D. student must complete their depth examination **before** finishing 18 credit hours in the program. The depth examination must be completed in Spring or Fall semesters only.

Motivation: The motivation of the depth examination is to enable students to show their ability to understand and critically analyze a computer science research topic/area and demonstrate their creativity and out-of-the box thinking. The exact details of the student's assigned research topic and deliverables for the depth component will be determined by a student's Depth Assessment Committee (DAC) (see below) and approved by the ACC.

Depth Assessment Committee: All students wanting to take the Depth Examination must form a DAC. The committee formation must be completed by the second week of the semester, at the latest, in which the student wishes to take the examination. Ideally, this should be completed one semester prior. The committee must consist of at least three CCSE graduate faculty members with workload within Research and Creative activity. A student will need to work with the ACC and the Program Director to finalize the committee and submit the "Application for Depth Examination" form for approval.

Note that your depth committee may be different from your dissertation committee.

Examination Products/Mode: The student will have 5 to 7 weeks to complete the examination tasks. The student is expected to produce a high-quality manuscript,

computing artifact, and complete a high-quality presentation as a part of their examination. The presentation is open to the public and must be announced at least one-week in advance.

Result of Depth Examination: Results of Pass/Fail must be communicated to the Program Director by the Chair of the Depth Assessment Committee by the **end of the semester student is taking the exam in**. The pass/fail is determined by a majority vote of the committee.

4.1.3. Negative Depth Examination Outcomes

Unfortunately, a student may, at times, not meet the depth requirements. Following a negative result of the depth examination the student may make an appeal to the ACC for a 2nd attempt within two weeks of the exam result. To start the appeals process, the student must immediately contact the Program Director. The Program Director may request specific information to be included in the appeal.

ACC will review the appeal and make a decision after taking all the evidence into consideration (e.g. student's current standing in the program, student's performance on the first attempt, etc.) and determine if another attempt will be allowed. ACC will provide a timeline for such an attempt as well. A student may request a change of Depth Assessment Committee during the appeal.

Note: The Depth Assessment Committee is not required to allow a student to make a presentation for the depth exam. If the committee determines student's work to be substandard, they may fail the student without a presentation.

4.1.4. Not passing the Comprehensive Examination

To pass the Comprehensive Examination, a student must pass both the Breadth and Depth components of the exam. If the student fails one or both of the components, they are dismissed from the CS Ph.D. program.

4.2. Dissertation Committee

The Dissertation Committee oversees the Dissertation Proposal Defense, and Dissertation Defense.

The first step in forming student's Dissertation Committee is choosing the Dissertation Advisor. While most Ph.D. students have a tentative advisor from the first semester in the program, they must make this official by setting up a Dissertation Committee **after** the completion of the comprehensive examination. The committee must include at least three CCSE committee members (including student's Ph.D. advisor), and one external member

from a *college other than CCSE* at KSU. All committee members must be graduate faculty members at KSU and in tenured or tenure-track positions.

4.2.1. Dissertation Advisor

The Dissertation Advisor serves as the Chair of a student's Dissertation Committee and directs student's research on a day-to-day basis. To be a Dissertation Advisor, a faculty member must meet several requirements, some of which are:

- Be a Program Faculty for CS Ph.D. Program.
- Must hold a Ph.D. in Computer Science or closely related field.
- Must be a tenured or tenure-track CCSE faculty member with full graduate faculty status.

The Dissertation Advisor has three main responsibilities: guiding the student's overall research direction, providing day-by-day advising to the student, and ensuring the student is making timely progress towards completing their Ph.D. program.

4.2.2. Dissertation Committee Members

This is done in consultation with the Dissertation Advisor. Once the student has selected their committee members, they must submit the Dissertation Committee form for approval by the ACC and the Program Director and the Graduate College.

If a committee member can no longer serve on the committee, a suitable replacement must be found, and the student must submit a *new* Dissertation Committee form for approval.

4.3. Recommended Timelines

Fully funded full-time students are *required* to take their six core courses within the first two semesters in the program (excluding summer). Part-time students should aim to finish all their core courses before enrolling in electives.

A suggested timeline for the progression of a full-time Ph.D. student, joining in the Fall semester, in the CS Ph.D. program is shown below.

Year 1 – Fall	Credits	Year 1 – Spring	Credits
CS 8041 Advanced Theory of Computation	3	CS 8260 Advanced Database Systems and Applications	3
CS 8045 Advanced Design and Analysis of Algorithms	3	CS 8027 Advanced Networking and Architecture	3
CS 8025 Advanced Operating Systems	3	CS 8050 Principles of Software Design and Programming Languages	3
Total Semester Credits	**9**	**Total Semester Credits**	**9**
Comprehensive Examination completed before the end of 2nd semester in the program			

Year 1 – Fall	Credits	Year 1 – Spring	Credits
Comprehensive Examination completed before the end of 2nd semester in the program			
Year 2 – Fall	**Credits**	**Year 2 – Spring**	**Credits**
CS 8998 Advanced Research in Computer Science	3	CS 8998 Advanced Research in Computer Science	3
CS Elective I	3	CS Elective III	3
CS Elective II	3	CS Elective IV	3
Total Semester Credits	**9**	**Total Semester Credits**	**9**
CSE 7983 Graduate Internship/DS 9700 Doctoral Internship (3 credit hours)* in Summer			
Year 3 – Fall	**Credits**	**Year 3 – Spring**	**Credits**
CS Elective V	3	CS Elective VI	3
CS 9900 Ph.D. Dissertation hours	6	CS 9900 Ph.D. Dissertation hours	6
Total Semester Credits	**9**	**Total Semester Credits**	**9**
Complete your *Doctoral Dissertation Proposal* defense in Year 3			
CSE 7983 Graduate Internship/DS 9700 Doctoral Internship (3 credit hours)* in Summer			
Year 4 – Fall	**Credits**	**Year 4 – Spring**	**Credits**
CS 9900 Ph.D. Dissertation hours	9	CS 9900 Ph.D. Dissertation hours	3
Total Semester Credits	**9**	**Total Semester Credits**	**3**
Complete your *Doctoral Dissertation Defense* in the last semester			

*You may take internship credit during any semester (Fa/Sp/Su) with ACC's approval. You may also request a substitution of internship credits with dissertation hours or other graduate level electives.

**Once advanced to candidacy, you must be registered every semester, including summer.

4.4. Program of Study

Students must complete the Program of Study Form under the supervision of their Dissertation Advisor and in coordination with their Dissertation Committee. The purpose of the Program of Study is to design an appropriate program to meet the specific needs of a given student in their chosen research area as determined by the Dissertation Committee.

After being signed by the student and Dissertation Advisor, the form must be submitted to the Program Director for signature and submission to the Graduate College.

Minor changes to this plan may occur due to changes in course offerings. These changes must be documented, and a new program of study form completed, approved, and filed with graduate college before the final semester.

4.5. Major Milestones

The following timeline excludes Summer Semesters.

Full-time Students

Milestone	When
Identification of tentative dissertation advisor	1st semester in the program
Depth Exam Committee formation	Within two weeks of the start of 2nd semester in the program
Comprehensive Examination completion	Before completing 18 credit hours (2nd semester) in the program
Formation of dissertation committee	3rd semester in the program
Completion of a Program of Study	3rd semester in the program
Proposal defense	3rd year of the program
Dissertation defense	Last semester in the program

Part-time Students

Milestone	When
Identification of a tentative dissertation advisor	1st semester in the program
Depth Exam Committee formation	At the start of semester in which the student wishes to take the Comprehensive Exam
Comprehensive examination completion	Before completing 18 credit hours in the program
Formation of dissertation committee	The semester after the passing of the comprehensive exam
Completion of a Program of Study	The semester after the formation of the dissertation committee
Proposal defense	When the student's dissertation committee approves
Dissertation defense	Last semester in the program

Time Limits

Full-time students, funded by the University, are typically funded for 4 years and in some cases a maximum of 5 years. All students, irrespective of funding, must complete their doctoral degrees within 10 years of joining the program.

4.6. Candidacy – Post Proposal Defense

Upon successfully completion of Proposal Defense a student is considered a candidate for Ph.D. in Computer Science at KSU. To make this official, a student must initiate and submit the Candidacy Approval Form provided by the Graduate College.
https://www.kennesaw.edu/graduate/current-students/forms.php

4.7. Grade Standards

Students in the CS Ph.D. program must always maintain a minimum GPA of 3.0. If their GPA falls below 3.0, they will be placed on academic probation and will have one semester to get their GPA back to at least 3.0. Students whose GPA remains below 3.0 for two consecutive semesters will be automatically dismissed from the program.

During the probationary period, a student will lose their eligibility for GRA/GTA positions. If the student's GPA falls below 2.0 during a semester, they may be immediately dismissed from the program.

4.8. Transfer Credits

Graduate work taken at other regionally accredited institutions must be evaluated and approved by the Program Director and the Admissions and Curriculum Committee (ACC) to satisfy degree requirements. Such transfer credit cannot exceed 25% of the total semester hours required for the degree and cannot reduce residency requirements.

For approval, a student must submit:
- Previous transcript(s) that show grades obtained.
- Course syllabi for the courses that the student wants to transfer.
- A narrative describing the rationale for the transfer request.
- Sample work from each of the courses.

Restrictions on Transfer Requests:
- Coursework older than 7 years is not eligible for transfer.
- Coursework can only be transferred if the student has earned a grade of B or better in it.
- Coursework can only be transferred as CS electives and not Core courses.
- All transfer credit will be approved in adherence with university policy.

Eligibility of transfer credits is first evaluated by the Program Director and then taken to the ACC for review.

4.9. Summer Expectations for the CS Ph.D. students

The CS Ph.D. program at KSU allows students to explore numerous opportunities within the University as well as outside the University over the summer semester depending on student interests. Consequently, the programmatic expectations during the summer semester are kept to the minimum. In general,

- Students must discuss with their advisor their summer plans and any GRA opportunities that may be available, as early as possible.
- If a student wishes to do an internship, they look for an internship on their own after consulting with their advisor. Students are encouraged to participate in career fairs organized at the University to seek internship opportunities and/or get in touch with the CCSE internship coordinator.
- If students wish to take an internship for credit, they contact the Program Director for approval as early as possible and no later than a month before the start of semester in which they wish to take the internship credit. In the case of international students, it may take even longer than a month to get appropriate approvals.

4.9.1.   Continuous Enrollment While Completing Dissertation

- If dissertation, thesis, capstone, or project courses comprise 50% or more of a student's credit hours in any semester students must be enrolled every semester (including summer) when they are receiving thesis, dissertation or project guidance or intend to use campus resources. If a student is not receiving thesis, dissertation, or project guidance and does not intend to use campus resources, then the student is not required to register in the summer and complete an enrollment waiver.
- Students who have completed all coursework and are planning to submit a dissertation, thesis, capstone, or project in partial fulfillment of the requirements for a graduate degree should register for dissertation, thesis, capstone, or project hours consistent with a realistic appraisal of the amount of remaining work and required faculty involvement.
- Graduate students must be registered for at least one semester hour in the semester (including summer) in which they complete all degree requirements to qualify for graduation. Students then may graduate that same semester or the following in accordance with the graduate timeline.

5. Funding Opportunities

5.1. Overview

The CS Ph.D. program at KSU is highly competitive, both for admission as well as for funding. Admitted students who request funding may be eligible for a Graduate Research Assistantship (GRA) or a Graduate Teaching Assistantship (GTA). Funded students receive support in the form of a Graduate Assistant appointment and a tuition waiver. Funding is available from multiple sources. Prospective Ph.D. students are encouraged to reach out to the Program Faculty of the CS Ph.D. program to inquire about available research funding from external sources; and to reach out to the Program Director regarding institutional funding. In addition, scholarships may be available through federal agencies as well as industry that a prospective student may seek.

The CS Ph.D. program may add additional requirements, policies, and expectations for students to maintain assistantships (in addition to the graduate college). When it does so, students will be notified in advance with reasonable timeline for implementation. Funding status is reviewed annually as part of the annual performance evaluation, and based on remaining in good standing, and completing work associated with the GRA/GTA assignment.

For more details please see: https://gradassistantships.kennesaw.edu/index.php

5.2. Graduate Research Assistantship (GRA)

5.2.1. Description

GRA is the term used at KSU to refer to graduate research assistants that work on campus in research-related positions. GRA funded students gain the experience of working alongside faculty members on cutting edge research projects. GRA students are generally funded through competitive faculty grants and contracts, but several are supported through the University funding as well.

In the CS Ph.D. program, the faculty member you are assigned as your GRA supervisor also acts as your dissertation advisor.

The CS Ph.D. GRA comes with a,
- ***Stipend***, and a
- ***Full tuition waiver*** for up to 12 credit hours per semester.

Typically, not covered (individual circumstances may vary):
- The cost of any undergraduate credits taken by the GRA.
- The cost of health insurance and any/all other fees.
- Courses not required by the student's degree program.

5.2.2. GRA Responsibilities

GRA responsibilities vary greatly and may include, but not limited to:
- Being able to prototype/implement models for problem solving
- Conducing literature reviews or library research
- Preparing materials for submission to funding agencies and foundations
- Writing reports and/or papers
- Collecting, coding, and/or analyzing data
- Develop demos and real-life applications
- Preparing materials for IRB review
- Timely response to faculty supervisor and holding regular meetings
- Submitting assigned work on time

5.2.3. Expectations of Advisors (GRA supervisor) and Advisees (student)[1]

The relationship between student and their advisor is one of the most critical components for your success in the Ph.D. program. A symbiotic relationship between the two can enhance the careers of both parties. The relationship typically takes three forms: advisor-advisee, supervisor-employee, and mentor-mentee. In the CS Ph.D. program, the aim is to ensure that all these relationships work together to yield the best results. Therefore, the GRA supervisor is the student's Ph.D. advisor and mentor throughout the Ph.D. program. This section lays out some fundamental guidelines and expectations for such a relationship.

The Advisor

At KSU, every graduate faculty member in CCSE is expected to guide students on research projects. At the same time, graduate students by contributing to the advisor's research program help build faculty member's research record and reputation. *Expectations should, ideally, be clearly stated between the student and advising faculty at the start of the advisee-advisor relationship.* The success of the student can lead to faculty's success. However, the faculty is also answerable to outside agencies that may be funding their projects and their expectations may not always directly align with student's plans. As an advisor, the faculty member is expected to protect and balance the student's, sponsor's as well as their own interests in this research relationship.

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[1] https://catalog.gatech.edu/academics/graduate/expectations/

The Advisee

In order for a student to acquire their Ph.D. degree, they must participate in the research process. Furthermore, a student working as a Graduate Research Assistant is also an employee who helps the advisor and his research group meet the project requirements that may have external stakeholders. Sometimes, as an employee, your set of duties may not directly align with your educational goals and research interests/objectives.

Mutual Expectations

Students Expect from their Advisor:

Respect
- Respect as a person, student, and employee
- Recognition and respect for differences in culture, ethnicity, gender, and other dimensions of diversity
- Commitment of time, effort, and financial support (advising only as many students as resources permit)
- Allowing the student to communicate and express concerns without the fear of retribution.
- Understanding of student's commitments to coursework and GRA responsibilities.

Open and clear communications
- Mutually agreed upon expectations for student's collaboration with other faculty, students or teams
- Mutually agreed upon expectations for frequency and format of communication
- Clear communication about project timelines, availability and nature of funding, level of effort and research expectations
- Timely review and feedback on student's research and academic progress
- Notification of and appropriate resolution of issues that arise within the program, be they academic, research, financial or interpersonal in nature.

Guidance on research and degree completion
- Guidance on planning and managing research projects from conception to publication
- Reasonable, mutually agreed upon expectations of the time frame necessary to produce results and complete the dissertation/thesis
- Proper training and resources to successfully complete research projects
- Guidance on professional and ethical standards

Guidance on career
- Advice on advancing professional goals in the direction most desired by the individual student
- Opportunities to participate in career development activities
- Help building professional networks

Advisors Expect from Advisee:

Respect
- Respect both as professor and person, recognizing the value of their time and their responsibilities within and outside the University
- Understanding that mentoring is tailored for each individual student and adjusted for progress in the degree program

Open and clear communications
- Mutually agreed upon expectations for student's collaboration with other faculty or teams
- Mutually agreed upon expectations for frequency and format of communications
- Regular progress reports including what the student has and has not done, including setbacks
- Reasonable, mutually agreed upon expectations of the timeframe necessary to give feedback and review results
- Discussion of difficulties with advisor first, before turning to other means for conflict resolution (such as the Program Director or the Department, College, or University administration)
- Notification as soon as possible if planning to leave program or advisor sooner than expected
- Discussion of any travel plans or internship plans as early as possible.

Commitment & Productivity
- Understanding of the expectations of the degree program, advisor, research team, and GRA responsibilities
- Learning and progress through the program, with progressively more independence as the student advances
- Commitment and steady effort to make progress towards mutually agreed upon results and deliverables, adhering to timelines and deadlines

Responsibility
- Save, ethical, and efficient use of resources
- Abiding by professional and safety standards
- Taking feedback seriously and revising in response

- Maintaining good records and documentation that would allow replication of results
- When graduating or leaving the team, leaving behind the organized research materials and appropriate documentation
- Prepare annual reports

Networking, Collaboration, and Teamwork
- Helping to establish connections with other researchers
- Working well with others; supporting and mentoring others in the team
- Carrying a fair share of the responsibility
- Understanding the common intellectual property principles involved in teamwork
- Meeting deadlines
- Thoughtfully reviewing the work of others, including the advisor

5.2.4. External Funding

Competing for external funding is part of the professional development of doctoral candidates. Receiving a competitive external fellowship is an honor that stays with students throughout their career and can improve their professional prospects. Therefore, all doctoral students are strongly encouraged to seek external financial support in the form of dissertation fellowships and grants to cover the dissertation related expenses.

Applications to external funding opportunities must be first discussed with the student's Dissertation Advisor and the Program Director. Typically, all proposals for external funding (grants, subawards, contracts, consulting agreements) must be routed through the Office of Research. It is recommended to work closely with the Office of Research staff to verify funding eligibility and ensure on time submission of all required application material.

5.3. Graduate Teaching Assistantship (GTA)

5.3.1. Description

GTA is the term used at KSU to refer to graduate teaching assistants that work on campus in teaching-related positions. GTA funded students gain the experience of working alongside faculty members to support their teaching. GTA students are generally funded through the College, but several maybe supported through the University funding as well.

In the CS Ph.D. program, your GTA duties may be with a different faculty member than your dissertation advisor. The department will make every attempt the align these, but it is not guaranteed.

The CS Ph.D. GTA comes with a,
- ***Stipend***, and a
- ***Full tuition waiver*** for up to 12 credit hours per semester.

Not covered:
- The cost of any undergraduate credits taken by the GRA.
- The cost of health insurance and any/all other fees.
- Courses not required by the student's degree program.

5.3.2. GTA Responsibilities

As a GTA in CCSE, you may be asked to help with courses in Computer Science, Software Engineering, Computer Game Design, Information Technology, Cybersecurity, and/or Data Analytics. As a GTA you are expected to be proficient in teaching coding, and problem solving. A GTA's responsibilities vary and may include, but not limited to:

1. Conducting student labs and answering student questions.
2. Tutoring, preparing lecture/lab material, and grading.
3. Coordinate labs and assignment submissions.
4. Hold office hours.
5. Respond to student emails.
6. Attend weekly GTA meetings.
7. Proctor and grade tests.

All GTAs must attend GTA orientation. GTAs designated as the instructor of record must complete GRAD 9001: College and University Teaching (1 credit hour) course during the first semester working as GTA.

5.4. Graduate Professional Assistantship (GPA)

The University provides several Graduate Professional Assistantships (GPA). Please see https://gradassistantships.kennesaw.edu/.

6. Degree Coursework Requirements

Please refer to the graduate catalog of the term you were admitted in for coursework requirements:
https://catalog.kennesaw.edu/preview_program.php?catoid=61&poid=7223&returnto=4611

6.1. Internships

CS Ph.D. students are required to take 6-credit hours of internship as a part of their Ph.D. study. These may be requested as CSE 7983 Graduate Internship or DS 9700 Doctoral Internship. Students wanting to take internships for credit are required to obtain prior approval from the ACC and the Program Director.

Student must submit the following, <u>at least a month</u> before the start of the semester in which the student wishes to take the internship, to the Program Director:

1. Copy of the internship offer letter that includes,
    a. The number of hours worked and time-period of the internship.
    b. Job description and responsibilities.
2. Your direct supervisor and company name with contact information.
3. A 1-page bulleted list of the expected learning outcomes of the internship and how it will benefit your Ph.D. studies.

7. Programmatic Assessments

All CS Ph.D. students are required to always maintain 'good standing' in the Ph.D. program. A number of formative and summative assessments have been put in place to provide timely feedback to the student. In general, a student in the CS Ph.D. program is considered to be in good standing if they meet all of the following criteria:

- Satisfactory annual review.
- Maintain minimum GPA requirements of 3.0 overall.
- Faces no academic integrity issues.
- Satisfactorily fulfills the GRA/GTA duties.
- Successful completion of comprehensive exam.

If a student loses their good standing in the program, a number of actions may be recommended by the ACC, the Program Director, and/or the College Administration. These include, but are not limited to, (1) formal warning and a remedial plan, (2) stoppage of funding, (3) academic probation, and (4) dismissal from the Ph.D. program. The action recommended will depend on the severity of the issue. Two semesters of lack of timely progress can lead to dismissal from the program.

7.1. Formative Assessment

Students in the Ph.D. program shall make adequate and recommended progress to graduate. The program strives to engage in continuous formative assessment of student progress. These may include ongoing conversations among the Program Director, faculty teaching core and elective courses in the program, and GRA/GTA/lab supervisors. This informal feedback is an important part of professional development and both students and faculty should offer and seek this out.

If a student appears to be struggling and/or the Program Director is receiving conflicting reports from various sources, it may warrant a more in-depth assessment. If this happens, the Program Director may charge the ACC to request additional information from the student and faculty who are directly supervising and teaching the student. The ACC would then be tasked with formally assessing whether students have failed to make reasonable progress toward the Ph.D. The ACC reserves the right to add additional evaluation criteria as necessary. These additions will be announced to any affected students reasonably in advance, with appropriate time for implementation, of the review period.

7.2. Annual Review (Summative Assessment)

A more formal summative evaluation process will also take place annually for all students in the program. The Program Director, with input from the ACC and supervising faculty, will be responsible for evaluating the performance and progress of all current students. This

evaluation will take place in April/May. The elements of the evaluation include the following:

1. Current transcript
2. An updated Curriculum Vitae (CV)
3. A Progress Report (details below)
4. GRA/GTA evaluations from supervisor
5. Evidence of any Student Conduct and Academic Integrity violations.

The deadlines are announced at the start of the semester in which your annual review is due.

7.2.1. Annual Progress Report

All students (full-time and part-time): Progress Report from student includes a one-page reflective narrative written by the student discussing his/her achievements and progress over the last year.

Progress report prepared by your advisor: It shall include,
a. Research focus/Dissertation topic
b. Specific timeline for achieving major milestones (e.g., completing courses, taking comps, defending the proposal, submitting presentations and papers)
c. Potential career path/Steps taken toward professional goals
d. Specific contributions made to the Ph.D. program
e. Learning accomplishments/outcomes

Each sub-section of the report should be no more than 250 words in length. The reports will be shared with the ACC who will review the progress reports.

8. Unexpected Circumstances

8.1. Conflicts

Conflicts are inevitable in a workplace, and it is best to address them as soon as possible. If a conflict arises between an Advisor and an Advisee or between Advisees in an Advisor's research group, respectful open dialogue must take place to rule out any miscommunication and attempts must be made to resolve the conflict internally with consultation of your Advisor.

If the conflict cannot be resolved internally, as a first step, a student must approach the Program Director for help. The Director will consult with the parties involved to get a full picture of things. The Director may further consult with the College administration, other faculty members, and the Graduate College to determine the best resolution for the situation and recommend a resolution. If the involved parties are not satisfied with the proposed resolution, they may approach their Department Head or the College Dean depending on the situation. The Director will specify the next step along with the proposed resolution.

8.2. Request to Change Dissertation Advisors

There may be numerous reasons why a student may request a change in advisors. For example, the advisor may no longer want to work in the area that the student originally joined to work in under their supervision, or the advisor may no longer be available to guide the student. Similarly, a student's life goals may have changed and no longer align with advisor's expectations. In other cases, the request may be the result of a conflict between the student and the advisor/advisor's group.

8.2.1. Students funded by the College/University

A student may request to change their Dissertation Advisor, but *such a request must not be taken lightly*. Typically, a faculty member, along with the student, has invested significant time and resources into the success of the student and building of the advisor-advisee relationship. These relationships ideally last a lifetime. Requesting to change your advisor can often mean starting from square one and it may jeopardize your originally planned graduation timeline (and your funding in the program). Therefore, every attempt must be made to find a resolution first that will not require such a drastic step of changing advisors. If, however, no resolution can be found, a student must approach the Program Director with such a request. The Director will try to determine the cause of the situation and may attempt to find a resolution (which may very well end up being approving the request to change advisors). This may involve consulting with the College administration and the Graduate College.

Before choosing a new advisor, a student must keep in mind that every faculty member, due to different circumstances, in the College may *not* be eligible or available to advise a Ph.D. student. Therefore, the student must consult with the Program Director on how to determine eligible advisors. Several factors go into determining the eligibility list and may include availability of funding, faculty workload, and other issues.

In rare circumstances, a dissertation advisor may no longer wish to guide a student. In which case a student will follow the same process, as outlined above, to find a new advisor.

Possible results: There are typically two possible results of an advisor change request: (1) change of advisor may be approved with funding, or (2) change of advisor may be approved without funding.

8.2.2. Students not funded by the College/University

A Ph.D. student not funded by the College/University can initiate the process to change advisors by contacting the Program Director. If a student is funded by an external entity (e.g. NSF GRFP fellowship), they must ensure that they comply with the funding entity's requirements.

8.3. Leave of Absence

A student may request a leave of absence from the program for personal or medical reasons. If the student needs such a leave, they must contact the Program Director to initiate the approval process as soon as possible.

9. CS Ph.D. Forms

The Graduate College Provides a number of forms for our use, which can be found here: https://www.kennesaw.edu/graduate/current-students/forms.php

Please contact the Program Coordinator for program specific forms such as internship approval form, comprehensive examination form, any specific course enrollment forms, etc.