

Graduate Student Handbook  
Computer Science Department  
Loyola University Chicago

2025 – 2026

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# 1 Welcome to the Department

This handbook is intended for graduate students who are pursuing master’s and doctoral degrees in Computer Science (CS). It may also serve as a tool and resource for CS Department faculty and staff. The Loyola University Chicago Graduate School is the ultimate authority for granting graduate degrees at the University. The Computer Science Department administers these graduate programs under the authority of the Graduate School. The Graduate School’s Academic Policies and Procedures provide essential information regarding general University requirements. The CS Program faculty can set additional degree requirements beyond the minimum required by the Graduate School. The policies described in this handbook have been approved by the program faculty and encompass CS policies and the most commonly applicable Graduate School policies. Degrees and course requirements may change over time. Students must either meet the degree and course requirements in effect when they entered the program or those in effect when graduating from the program. In addition, administrative procedures and processes can change over time. Students are required to follow the procedures and requirements listed in the current handbook, but may petition the CS Graduate Committee to have specific department requirements applied to their record should the current requirements differ from those listed in previous versions of this handbook. The information in this handbook should be supplemented by individual consultation with students’ advisors so that individual needs/interests and all degree requirements are met. Additional information is available via the [CS Department’s external web page](#). Students can find more information on the Graduate School GUIDE or Graduate School web page.

# 2 Computer Science Department Information

## 2.1 Enrollment

### Fall 2024 Enrollment

- MS: 128 students
- PhD: 9 students

## 2.2 Key Roles & Contacts

### 2.2.1 Graduate School Roles

The Lake Shore Campus Graduate School Office is located in room 440 of the Granada Center on Sheridan Road. The telephone number is: 773-508-3396 (or, from a campus phone: 8-3396).

Role		Contact
Dean of the Graduate School	Dr Emily Barman	
Associate Dean of Academics	Dr Susan Grossman	
Assistant Dean for Student Services	Ms Heather Sevener	<a href="mailto:hsevener@luc.edu">hsevener@luc.edu</a>
Awards & Budget Manager	Ms Tamika Toler	<a href="mailto:ttoler@luc.edu">ttoler@luc.edu</a>

### 2.2.2 Departmental Roles

Role		Contact
Department Chair	Dr George K Thiruvathukal	<a href="mailto:gkt@cs.luc.edu">gkt@cs.luc.edu</a>
Department Manager	Ms Tori Bourne	<a href="mailto:vbourne@luc.edu">vbourne@luc.edu</a>
MS Program Director	Dr Peter Dordal	<a href="mailto:pld@cs.luc.edu">pld@cs.luc.edu</a>
PhD Program Director	Dr Neil Klingensmith	<a href="mailto:neil@cs.luc.edu">neil@cs.luc.edu</a>
Space Force Commander	Dr Dima Dligach	<a href="mailto:ddligach@luc.edu">ddligach@luc.edu</a>
Computer Science IT Administrator	Mr Miao Ye	<a href="mailto:mye@luc.edu">mye@luc.edu</a>

## 2.3 Department Information and Resources

### 2.3.1 Building Access

Keycard access to Doyle Hall is provided to all graduate students. The department manager can assist with providing access to Doyle Hall keycard scanners in the event that access permissions need to be updated.

**If you are locked out** of Doyle Hall or your office space, there are two options to unlock:

1. During business hours, the department manager has a master key to unlock all rooms in the building.
2. After hours, Campus Safety has keys to unlock all doors in the building. They can be reached at (773) 508-7233.

### 2.3.2 Computer Science Computing and Lab Resources

**Desk Space** Although space is extremely limited in Doyle Hall, the department will provide desk space to all PhD students. Contact your PhD advisor to request desk space in the department.

MS students are not guaranteed desk space, but they may be granted space on a case-by-case basis. For MS students on the research track, the advisor should be able to assign desk space. TAs may also request desk space by petitioning the Space Force committee with a written document describing the reason that a dedicated desk space is needed (contact info in §2.2).

**Makerspace** The CS makerspace is located in room 003 in the garden level of Doyle Hall. It has workbench space, hand tools, 3D printers, and laser cutters. Access to the makerspace is controlled by keycard scanner and can be requested through the department manager (contact info in §2.2). All graduate students will be granted access to the makerspace upon request.

**Computing Resources** The CS department maintains servers in the research datacenter located in the basement of Mundelein Hall. Our servers host virtual machines for research and instruction. Physical access to the research datacenter is strictly controlled and generally not available to graduate students.

Graduate students may request to have a virtual machine created on their behalf as part of department-related work by contacting the CS department IT administrator (contact info in §2.2).

### 2.3.3 Maintenance Requests

Maintenance requests can be filed with the [Loyola Facilities Department](#).

### 2.3.4 Printers and Office Supplies

Office supplies are available to all graduate TAs and RAs for use in department-related work. An office supplies cabinet is located on the second floor of Doyle Hall across from Room 214.

The department has two printers available for department-related use.

**Email** All ECE communication will be sent to students' Loyola email accounts. Students are responsible for maintaining their email account and responding to messages in a timely manner.

## 3 Student Services and Advising

### 3.1 CS Academic Advising

A student's CS academic advisor serves a dual role: first, to assist the student in acquiring the highest level possible of knowledge and competence in their field; and second, to chair the committee that will determine whether the student has performed acceptably at each of their degree milestones. Academic advisors play a role in tracking the student's progress toward degree completion, assisting with course selection and academic planning, and helping students identify possible committee members and opportunities.

The advisor/student relationship is one of mutual agreement, which may be terminated by either party at any time (see Section [3.3 Changing Your Advisor](#)). Students should discuss roles and expectations with their advisor or prospective advisors. Both the student and the advisor have a responsibility to make their expectations clear to each other. Communication is critical to a successful advisor/student relationship. Please see Section [6 Mentor-Mentee Expectations](#) for a detailed description of the nature of the Mentor/Mentee relationship.

All CS graduate students must have an CS academic advisor at all times! Students may have temporary advisors while in transition.

All CS students must have an academic advisor who is a current CS faculty member or current CS affiliate. If a student's sole advisor resigns their CS appointment, leaves Loyola, retires or becomes emeritus, that faculty member can serve as the student's sole academic advisor for up to one year after leaving the CS Department or University. After one year, the faculty member can continue to serve as a research advisor, but the student must also obtain a current CS faculty member as their academic advisor.

Students are also allowed to have more than one advisor. Advisor roles can be equal or set up as primary and secondary. A student may have more than one current CS advisor, but at least one is required. As long as a student has one current CS faculty member as an academic advisor, any additional advisor(s) can be from outside of the CS Department, faculty from a department without a graduate program, academic staff, emeritus faculty, advising faculty, faculty from another institution, scientists, research associates, or other individuals deemed qualified by the CS Graduate Committee. The academic advisor is expected to meet with the student periodically, advise the student on CS policies and requirements including milestone timing, and remain familiar with the student's research.

The academic advisor is responsible for annual reporting on the student's progress and serves as chair of the preliminary and final oral examination committees. In recognition of this relationship, the student is expected to enroll in at least one credit of CS 490/595 with the academic advisor each semester. **Incoming PhD students are expected to establish a relationship with a research advisor by the end of the first year of graduate study.**

Research advisors are specifically responsible for monitoring and advising students on their research. Research credits are taken in the research advisor's course section number. The research advisor should be a faculty member whose expertise and project/research interests match closely with those that the student intends to acquire. Students are encouraged to gather information from courses, faculty and student seminars, the program website, and publications to help identify faculty with matching interests.

### 3.2 Choosing an Advisor

When choosing a research advisor, students should seek out faculty members with expertise and research in the student's area of interest. Likewise, to receive the most appropriate academic planning advice, students should connect with a faculty member who is experienced and knowledgeable about industry and research related to the student's area of interest. Please see Section [3.1 CS Academic Advising](#) and Section [3.3 Changing Your Advisor](#).

### 3.2.1 Sample Questions to ask Prospective Advisors

Below is a list of questions that students can ask prospective advisors when choosing an appropriate advisor. Students should spend time thinking about what is most important to them in their graduate training, and come up with their own questions to ask as well. Many of these questions are complex and may take time for advisors to respond to. However, any advisor should be willing to discuss these important issues with students. Students may also want to discuss these issues with any students that are currently in the prospective advisor's group/lab.

- What thesis projects would be available to me if I were to join your group?
- Would these projects expose me to a variety of different approaches?
- In general, how available will you be to answer questions I might have?
- What is your philosophy regarding the amount of guidance the advisor should provide to a student during preparation of the thesis proposal, literature, presentations, thesis, etc.?
- What are your expectations for the amount of time I should spend each day/week in your group/lab?
- What regularly scheduled activities (e.g., group meetings, joint group meetings, and research clubs) does your group participate in that provide an opportunity to get outside input on my (research) project and to hear about the work of other students and postdocs?
- Do you encourage your students to attend seminars and journal clubs, including those that may be outside of their narrow field of interest/research?
- Do students in your group/lab have the opportunity to attend professional meetings where they can interact with colleagues/researchers from other institutions?
- Do you include your graduate students in professional activities that will familiarize them with their field of interest/research, such as reviewing manuscripts and meeting with visiting speakers?
- How long do you think it should take me to get my degree?
- What are your former graduate students (if any) doing now?
- What is your general philosophy around graduate training, and what goals do you have for your graduate students?

### 3.3 Changing Your Advisor

Before selecting or changing advisors, students are recommended to discuss the change with both their new and current faculty advisor. If the student is uncomfortable discussing a change with their current advisor, they should discuss the change with the Associate Chair for Graduate Studies or the College of Engineering Assistant Dean for Graduate affairs. After discussing the situation, students need to notify their CS Graduate Coordinator by email about the change. The student's new advisor needs to email a confirmation of the change to their CS Graduate Coordinator. Once their CS Graduate Coordinator receives the necessary email confirmations, the change will be made official in the system.

## 4 Admissions and Information for Prospective Students

### 4.1 Graduate Studies in CS at Loyola

The CS department offers **three different MS degrees** and **the PhD degree**.

### 4.2 Admission Requirements and Procedures

The application for graduate study **can be found here**. This application form is used for many programs at Loyola. Applicants may apply for teaching assistantships or for non-departmental financial aid.

## 4.3 Additional Requirements for International Applicants

### 4.3.1 Verifying Transcripts

Students with transcripts issued by international universities or colleges must be evaluated by an outside evaluator for GPA calculation and determining if the degree is equivalent to an American Bachelor's degree (four-year degree or 3-year degree with an extra year of study after that). Allow 4-6 weeks for them to evaluate transcripts and get the results to Loyola. [ECE](#) and [Educational Perspectives](#) both provide this service.

If you do not yet have your undergraduate degree, you must send transcripts to the evaluator when all your final courses are shown, though some without grades. This is usually in your final semester.

The evaluators can only determine the equivalence to a US 4-year degree if they see all the relevant courses listed on the transcript (again, possibly some without grades yet).

The conditional admission requires the university to receive another official transcript, showing degree completion, though this transcript can be sent to Loyola during your first semester here as a student\*. If you have international graduate-level coursework after 4 years of college-level work, you need a course by course evaluation to transfer international graduate credit.

If you are expecting to get transfer credit, it is most economical to ask for the course by course evaluation the first time transcripts are submitted to an evaluator.

### 4.3.2 Required English Exam

The English requirement is waived for students meeting certain criteria, for example, US citizens, permanent residents, and citizens of certain countries. For a complete list, please see the [LUC International Admission page](#).

All other students will have to take an English exam such as TOEFL, IELTS, PTE, and Duolingo. Please see the [LUC International Admission page](#) for more information on minimum scores.

If you do not meet the minimum scores, you can still be admitted conditionally to the ICAP program which requires you to complete the English Language Learning Program (ELLP) to determine your placement in ESL (English as a Second Language) preparation courses. For more information, please see the [LUC International Admission page](#).

### 4.3.3 Visas

International applicants who will be on an F-1 visa (including those who are seeking financial aid from the department) are encouraged to submit proof (affidavit) of financial support to our International students' office simultaneously with filing their application.

The form is linked on the [ISSS F-1 & J-1 Student Requests](#) page, Declaration of Finances for Graduate & Professional Students. Students who are chosen for the merit awards or scholarships will be notified regardless of their financial standing or ability to support themselves financially.

## 5 Getting Started Information for New Students

### 5.1 Before Arriving on Campus

- Activate your Loyola UVID.
- Read the current CS Graduate Student Handbook.
- Communicate with your faculty advisor to discuss your degree requirements, course selections, and funding opportunities (if applicable/desired).
- Receive an invitation to enroll email message from the Office of the Registrar containing important information about your enrollment appointment time for the upcoming semester. your enrollment appointment time should also be listed in your Student Center (accessed through LUC Locus).
- Enroll in courses after consulting with your faculty advisor. See [Section 9 Course Enrollment](#).
- If you have a need related to a disability, contact the [Student Accessibility Center](#)
- Research and plan necessary vaccinations and health insurance coverage (see [Section 11 Student Health Insurance Coverage](#)).
  - Vaccinations are available at nearby pharmacies.

- The State of Illinois requires all students to provide the university with proof of immunization for Flu, Tdap, MMR and Meningococcal before the 10th day of the term. International students must also provide TB test results. The **Wellness Center** records proof of immunization.
  - The wellness center also recommends COVID-19 vaccination and boosters.
  - When an international or domestic student receives funding and accepts appointment(s) totaling a minimum of 33% FTE, the university offers health insurance under XXX.
- Pay your tuition and fees.

## 5.2 Upon Arrival on Campus

- International students should check in with ISSS within 1-2 days of arrival.
- Get your Loyola photo ID card in Sullivan Hall.
- Pick up your **U-Pass**, which provides unlimited rides on CTA. U-Pass can be collected from Damen Student Center information desk.
- Verify/update your mailing address, email address, and other contact information in your Locus Student Center.
- Submit final transcripts and degree verification to the Graduate School, if necessary.
- Attend all necessary orientations.
  - Information and details about orientations will be emailed to students.
  - Students are encouraged to attend the **Graduate School’s new student orientation**, generally held in mid-August before the beginning of Fall semester.
  - Students should also attend the CS department’s informal lunch for new graduate students, generally held in the first two weeks of class during Fall semester.
  - New TAs and RAs should attend the graduate school’s New Research and Teaching Assistantship Workshop.
  - International students on F-1 and J-1 visas must also attend the International Student and Scholar (ISS) Orientation.
- When a student receives funding for an appointment, the Payroll and Benefits Specialists will send the student an offer letter to accept or decline and return.
- Students are encouraged to check in with their CS Graduate Program Director.
- Students must check in with their academic advisor.
- Complete the required online sexual harassment training, required by the State of Illinois.

## 6 Mentor-Mentee Expectations

### 6.1 Expectations of Research Advisors in the CS Department

#### 6.1.1 Educational Degree Progress

Advisors are committed to prioritize their students’ education by supporting students in their coursework and reviewing their academic progress toward their degree. They provide regular, timely feedback and goal-setting advice.

- Respect students’ privacy and abide by the Federal Educational Rights Privacy Act (FERPA) in reviewing progress and providing feedback.
- Bring concerns about progress to students’ attention in a timely manner.

Advisors are committed to students research project and work with students to help plan and guide research projects, set reasonable and attainable goals, and establish timelines for completion of projects. Advisors encourage input from PhD Preliminary Examination Committee and Final Defense Committee members by:

- Advising students on selecting committees that meet departmental and university policies
- Acknowledging that the function of these committees is to help students develop and complete research requirements
- Respecting the ideas and suggestions of their colleagues on the committees.

Advisors are also responsible for seeking and providing financial resources as appropriate and according to CS Department and Loyola guidelines for students to conduct their thesis/deissertation research.

### **6.1.2 Professional Development**

Advisors encourage students to attend and present their work at scientific/professional meetings and make an effort to secure and facilitate funding for such activities. Advisors also provide opportunities for students to discuss science and their research findings with colleagues and fellow scientists within the institution and broader scientific community.

Advisors promote training of students in professional skills needed for a successful career. They:

- Promote training in oral and written communication, grant writing, the peer review process, management and leadership, collaborative research, responsible conduct of research, teaching, and mentoring.
- Encourage students to seek opportunities to develop skills in other areas relevant to their professional development, even if not specifically required by the program.
- Encourage students to seek career and professional development advice from multiple mentors.

Advisors create an environment in which students can discuss and explore career opportunities and paths that match their skills, values, and interests and are supportive of their career path choices. They:

- Are accessible to give advice and feedback on career goals
- Work with students on an individual development plan to help define career goals and identify training milestones
- Provide letters of reference for students' subsequent phases of professional development in a timely manner or discuss with the students why such a letter would not be in the students' best interest
- Continue interest and involvement as students move forward into careers.

### **6.1.3 Research Environment**

Advisors promote an environment that is intellectually stimulating, respectful, emotionally supportive, equitable, healthy, collegial, and free of harassment throughout students' time in the research advisors' groups. They:

- Foster students' professional confidence and encourage intellectual development, critical thinking, curiosity, and creativity
- Set expectations for sharing of responsibilities amongst group members, such as cleaning and ordering supplies
- Provide access to appropriate safety training for students
- Provide guidelines for collaborative use of supplies, facilities, and equipment
- Review data management, storage, and record-keeping policies and procedures with students.

Advisors demonstrate respect for all students as individuals without regard to gender, race, national origin, religion, disability or sexual orientation, and cultivate a culture of tolerance among the entire research group. Advisors respect disability accommodations approved by the Student Accessibility Center.

### **6.1.4 Scientific Integrity**

Advisors discuss intellectual-property policy issues regarding disclosure, patent rights, and publishing research discoveries with students. Advisors discuss authorship policies regarding papers with students. Advisors acknowledge students' scientific contributions to the work in the research group and provide assistance to publish students' work in a timely manner.

## 6.2 Expectations of Graduate Students (Mentees) in the CS Department

### 6.2.1 Education and Degree Progress

Students are committed to the successful completion of their degree. They:

- Acknowledge they have the primary responsibility for their own education
- Are committed to graduate education and demonstrate this responsibility in the classroom, the research environment, and all other related academic and professional activities
- Exhibit a high level of professionalism, self-motivation, initiative, engagement, scientific curiosity, scientific integrity, and ethical standards
- Understand that meeting program academic requirements will involve effort beyond the minimum requirements associated with an appointment.

Students keep research advisors informed on the progress and results of course work, research, and professional and career development activities. They:

- Are responsive to the advice and constructive criticism from their advisor
- Discuss timing of external activities requiring advisor input, such as fellowship applications or paper/conference submissions, well in advance of corresponding deadlines.

Students work with research advisors to develop a thesis/dissertation project. They:

- Establish a timeline for each phase of their work
- Keep engaged with the work, discuss experimental findings and any pitfalls, while working to meet established goals and deadlines.

PhD students work with research advisors to select a PhD Preliminary Examination Committee and take PhD Preliminary Examinations within three semesters of receiving Advanced Graduate Standing. They discuss progress and are responsive to the advice and constructive criticism from committee members. PhD students work with research advisors to complete and defend their PhD thesis in a timely manner according to CS Department expectations. Students are knowledgeable of the policies and requirements of their graduate program, graduate school, and institution as described in the CS Graduate Student Handbook and Loyola Guide.

### 6.2.2 Periodic Evaluation

Each research/teaching assistant will be evaluated in writing at the conclusion of each semester. In the case of a research assistant, the evaluation should be completed by the research advisor and should be based on the performance in the assigned research tasks. In the case of a teaching assistant, the evaluation should be completed by the instructor of record and should be based on the observation of the teaching assistant in action.

### 6.2.3 Professional Development

Students are committed to developing their careers. They:

- Acknowledge that they have the primary responsibility for the development of their careers
- Explore career opportunities and paths that match and develop their individual skills, values, and interests to achieve desired career goals
- Understand that there are tools such as the individual development plan that help define career goals and develop training plans
- Participate in training on research ethics
- Seek career planning guidance throughout their graduate education from their research advisor(s), career counseling services, thesis/dissertation committee, and other mentors and resources.

Students attend and actively participate in research group meetings, seminars, and journal clubs that are part of their educational program. Students often seek out other enrichment opportunities, such as teaching, participation in professional organizations and meetings, membership on committees, and departmental events to further enhance research, leadership, and professional skills.

#### 6.2.4 Research Environment

Students are good citizens, take part in shared responsibilities and use resources responsibly. Students:

- Maintain a safe and clean workspace
- Are respectful of and work collegially with all research group personnel and fellow students
- Contribute actively to all team reports and collaborations while respecting the individual contributions of others
- Contribute to an environment that is safe, equitable, and free of harassment
- Bring problems that arise to advisors attention in a timely manner.

Students maintain detailed, organized, and accurate research records. Students acknowledge that ownership of original notebooks, digital files, data, and tangible research materials may be subject to sponsored research agreements and/or Loyola policies. They:

- Understand these materials typically remain with the research group after finishing their thesis/dissertation so that other individuals can reproduce and carry-on related research
- Maintain archival versions of code and data for use by other individuals
- Follow advisor and Loyola policy on making and accessing copies of research notebooks, digital files, and other tangible research materials for their own use.
- Students are knowledgeable of and comply with all Loyola research policies, including safety practices, animal use, and human-research policies.
- Participate in the Loyola Responsible Conduct of Research Training Program and follow the guidelines presented therein while conducting research
- Seek input on and comply with institutional policies regarding research design and data analysis.

#### 6.2.5 Scientific Integrity

Students consult with advisors to learn what research results may be discussed or shared with any entities outside the group prior to publication. They:

- Keep information about problems they or others in the group are working on confidential
- Obtain prior permission before discussing results not in the public knowledge with anyone outside the group.
- Students discuss policies on authorship and attendance at professional meetings with research advisors.
- Adhere to agreed-upon timeframes for preparing drafts of manuscripts and presentations
- Work with advisors to disseminate relevant research results in a timely manner before completion of degree requirements.

Students understand that fabrication, falsification, and plagiarism in proposing, performing, or reviewing research will result in severe consequences under Loyola research misconduct policies. Students comply with intellectual property, invention disclosure, and export control policies.

## 7 Doctoral Degree

The doctorate degree in computer science (PhD CS) is a research degree emphasizing creativity and original approaches to problem solving. PhD students must satisfy the Loyola University Graduate School credit requirements.

## 7.1 Credit Requirements

They must take a total of 60 credits during the PhD degree consisting of:

- 21 MS level coursework, including<sup>1</sup>
  - COMP 413, Intermediate Object-Oriented Development
  - COMP 417, Social and Ethical Issues in Computing
  - COMP 460, Algorithms & Complexity
  - 4 COMP electives
- 9 Credits of qualifying courses (3 COMP 4xx level courses, see Table 1 and Section 7.3 for more detail). Students must select courses from three of the four topic areas of Theory, Systems, Software, and Artificial Intelligence.
- 21 credits of dissertation research (4xx and 5xx-level courses of directed study)
- 9 credits of upper level PhD requirements
  - COMP 501 (Equitable and Inclusive Computer Science Pedagogy)
  - COMP 502 (Structure of Research Management and Funding)
  - COMP 503 (Technology Entrepreneurship)

**Seminar Courses** Students may count seminar courses (usually listed as COMP 488) toward their qualifying courses provided that the course clearly falls within one of the four topic areas in Table 1. Students must submit written notification to the graduate committee including a copy of the course syllabus and a brief (no more than one-page) explanation of how the course fits within one of the topic areas.

**Courses Outside CS** Courses from other departments related to the area of study may be taken **with approval from the thesis advisor**. The thesis advisor must submit a letter to the graduate committee granting approval for course(s) taken outside the CS department. The letter should include the course number and a brief explanation of how it will fit within the student's course of study.

### 7.1.1 Research Courses and Independent Study

- COMP 590 Independent Project
  - For MS research option students working on a thesis.
  - For PhD students getting an MS along the way.
  - MS research students may count up to 6 credits of COMP 490 toward MS level coursework.
- COMP 610 Doctoral Study
  - Only for PhD students who have passed their qualifying courses before passing Preliminary Exam.
  - 0-credit class that enables PhD students to remain enrolled full-time while working on their PhD thesis.
- COMP 600 Dissertation Supervision
  - Only for PhD students who have passed their preliminary exam.
  - **Note: COMP 610 precedes COMP 600** even though it has a higher number.
  - 0-credit class that enables PhD students to remain enrolled full-time while working on their PhD thesis.

Students must enroll individually under the specific section number of the research advisor for all research and independent study courses. Research courses and independent study courses are variable-credit courses. Students must agree upon and confirm the number of credits with their research advisor. Normally, 3 credit hours of research per semester is an appropriate workload for MS students taking other courses. The credit load may be higher for doctorate students who are not enrolled in other courses.

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<sup>1</sup>These courses are transferable from prior MS degree.

Theory	Systems	Software	Artificial Intelligence
COMP 409	COMP 410	COMP 474	COMP 429
Theory of Cryptography	Adv. Operating Systems	Software Engineering	Natural Language Processing
COMP 471	COMP 439	COMP 473	COMP 458
Programming Languages	Distributed Systems	Advanced OOP	Big Data Analytics
COMP 476	COMP 464	COMP 453	COMP 479
Automata & Formal Lang.	High Performance Computing	Database Programming	Machine Learning
	COMP 462		COMP 487
	Adv. Computer Architecture		Deep Learning
	COMP 472		
	Compiler Construction		

Table 1: Qualifying Courses

Students should complete and turn in their PhD coursework form at the beginning of the last semester of which they are taking a classroom course required for PhD coursework. Forms should be turned into CS Department Manager, who will verify the student's grades and pass the forms to the CS Graduate Committee for approval. Before submitting the PhD course forms, all temporary grades must be resolved. All incomplete grades and progress grades, for example, must be changed to final grades.

### 7.1.2 Course Restrictions

- Courses taken as Audit or Pass-Fail may not be counted toward the 60-credit degree requirement.
- ESL courses do not count toward the PhD course requirement.

Students are allowed to take more than 60 credits but are expected to graduate within a reasonable time.

### 7.1.3 Responsible Conduct of Research

Students in the PhD program are required to complete the **Responsible Conduct of Research** course before engaging in research tasks. If applicable, **IRB approval or exemption** should be obtained before the Graduate School approves the thesis proposal.

## 7.2 Prior Coursework and Transfer Credits

With approval from the graduate committee, credits taken prior to enrolling in the PhD program may be counted toward the 21 credits of MS level coursework. Students who intend to use prior coursework to satisfy the 21 credits of MS level coursework must petition the graduate committee with a written document that details the specific transfer courses they wish to apply to the requirement. The written petition should include a syllabus from each course to be applied to the MS level requirements if the course was taken at a different institution along with a clear explanation of which course will apply to which MS requirement.

The graduate committee may deny requests if (1) sufficient documentation of the course content is not provided or (2) the course is not a close enough match to the Loyola CS department's MS level coursework.

## 7.3 Qualifying Coursework

To qualify for the PhD program, students must earn a grade of *A* in at least three qualifying courses, listed in Table 1. Students must also maintain an overall GPA of at least 3.5 among all courses taken in residence during the PhD at Loyola. The qualifying courses must be selected from three of the four subject areas listed in Table 1. All three qualifying courses must be taken in residence at Loyola during the student's PhD – they cannot be transfer courses or prior coursework taken before enrolling in the PhD program. The nine credits of qualifying coursework may not overlap with the 21 credits of MS level coursework.

## 7.4 Advanced Graduate Standing

Following the completion of qualifying coursework, students shall petition the CS Graduate Committee to obtain advanced graduate standing. AGS evaluation is based on:

1. The student's performance in the qualifying coursework
2. The student's performance in other graduate courses. Although a cumulative GPA of 3.5 is the minimum requirement, a higher overall GPA in overall coursework is usually required to achieve AGS.
3. A letter of recommendation from the student's research advisor submitted directly to the graduate committee.
4.
  - The student's submitted plan for meeting all course requirements.
  - A projected timeline for you next one or two publications. This should include the semester in which you plan to take the preliminary exam.
5. Additional supporting materials, such as publications in top venues, that the student wishes to provide.

The Advanced Graduate Standing milestone is a checkpoint intended to ensure that PhD students are making progress toward their PhD. Each PhD student is evaluated for AGS in their 4th semester. Notification of the outcome of the review is made via email. If a student is turned down after the first AGS review, they are notified of the reasons with an indication of how and to what extent the student's chances of receiving AGS at the subsequent evaluation can be improved. Students not receiving AGS at the initial review are evaluated for AGS a second time by the end of the semester following the first review. No student is reviewed for AGS more than twice. A student who is turned down for AGS a second time will be required to leave the CS PhD program.

After achieving advanced graduate standing, students may begin registering for 500-level courses that focus on their chosen research direction and the successful development and defense of a PhD thesis.

## 7.5 Preliminary Examination

The Preliminary Examination is a detailed examination covering the proposed research leading to the PhD thesis. The purpose of the exam is to ascertain the capability of the student to perform the proposed research and the quality and appropriateness of the project. Upon successful completion of the Preliminary Examination and PhD requirements (except the completion of the dissertation), students are classified as dissertators.

Every PhD student is required to pass the Preliminary Examination. Before taking the Preliminary Examination, the student must first achieve Advanced Graduate Standing (AGS). There is no limit to the number of times a student may take the Preliminary Examination. The Preliminary Examination must be taken for the first time no later than three semesters after receipt of Advanced Graduate Standing.

The preliminary exam is intended to be a proposal, not a nearly completed thesis. The goal is to present your plans for your thesis to a committee and receive feedback at an early stage in your research. The examination is generally oral and is administered by a committee convened by the student with the approval of the student's research advisor. The committee consists of no less than three members, but preferably four members, at least two of which must be selected from the CS Department. It is recommended that the committee satisfy all the requirements of the Final Oral Examination committee and that the Preliminary Examination Committee be selected with the intention of also serving as the Final Oral Examination committee.

### 7.5.1 Preliminary Exam Format

The preliminary examination is a two-part exam that follows a similar format to the final thesis defense. The exam consists of (1) writing a preliminary document and (2) making a presentation to the PhD committee. The preliminary document should be circulated to the committee at least two weeks prior to the preliminary exam presentation date to give the committee adequate time to read and make comments. On the date of the presentation, each committee member will return the preliminary document to the student with comments.

Following the preliminary presentation, the committee will deliberate in private to discuss the quality of the student's work. After deliberation, the committee will render a decision about whether the student passed or failed the preliminary examination.

**Preliminary Document** A preliminary document is an exposition of the best work the student has done during the PhD program to date. It should cover 1-2 research papers the student has written.

### Preliminary Presentation

**Forming a PhD Committee** PhD students must formally identify their committee prior to standing for the preliminary exam. Committee members should be identified in the [Graduate School Progress System](#). A PhD committee should consist of three to four faculty members, including one from outside of the computer science department.

Committee members from the following categories must be approved by the CS Graduate Committee: faculty from a department without a graduate program, academic staff (including emeritus faculty), visiting faculty, faculty from other institutions, scientists, research associates, and other individuals deemed qualified by the Graduate Committee. To seek approval, students should prepare a 2-4 sentence written explanation of why an individual should be allowed to serve on the committee. This explanation must be submitted to the CS Department Program Manager no later than 1 month before the student's preliminary exam date.

The format of the exam typically involves public presentation of selected research conducted to date by the student and a description of the proposed research to be completed for the PhD degree. Questions may be asked at any point in the presentation. After the presentation, the chair of the committee will ask any public attendees to leave the room, and the committee will ask further questions of the student. Then the student will be asked to leave so the committee can discuss the student's performance and form recommendations to be shared with the student.

There are no departmental documentation requirements for the preliminary exam. However, students should consult with their advisors for advice on how to best communicate their current/to-date and proposed work to the committee. Typically, students will prepare a written report and a presentation. A detailed written report is strongly encouraged, as it provides a document the student and committee can refer to later.

At least two months prior to the Preliminary Examination, students are required to turn in their PhD course forms with their advisor's signature to the CS Department Manager. Before a Preliminary Examination Warrant can be requested, a student's PhD course forms must be approved by the CS Graduate Committee. The CS Department Manager will verify the student's grades and pass the forms to the CS Graduate Committee for approval. Students should complete and turn in their PhD course forms at the beginning of the last semester of which they are taking a classroom course required for PhD coursework. Before submitting the PhD course forms, all temporary grades must be resolved. All incomplete grades and progress grades, for example, must be changed to final grades. Once a student's PhD course forms have been approved, they may submit the Preliminary Examination Warrant Request form. This form should be submitted at least two weeks prior to the date of the examination.

## 7.6 Dissertator Status

When a student has completed and passed all requirements of the PhD degree with the exception of the completion of the dissertation, a student is classified as a dissertator. Specifically, a student must:

1. Have completed 30 graduate level credits, including 9 credits of qualifying coursework.
2. Have achieved advanced graduate standing
3. Have passed the preliminary examination and
4. Have a cumulative GPA of at least 3.5.

Dissertator status is achieved by turning in the signed and dated Preliminary Examination Warrant to the CS Department Manager. Dissertator status is effective at the beginning of the semester following the completion of all dissertator requirements for the doctoral degree except for the dissertation. Students will receive a confirmation email from the CS department when they have achieved dissertator status.

Dissertators must continue to enroll in at least three credits of COMP 595 every semester until the PhD is conferred.

## 7.7 Final Oral Examination

The final oral examination normally covers a student's dissertation and areas of study. Students may not take the final oral examination until they have satisfied all other requirements for their degree. A final oral examination is required of all PhD students. There is no limit to the number of times a student may take the final oral examination. Doctoral students are expected to take their initial final oral examination within five years of entering the CS PhD program. For example, students entering in Fall 2022 should schedule their initial defense prior to the end of the Summer 2027 session. Students have a maximum of five years from the date of passing their Preliminary Examinations to pass their final oral examination and submit their dissertation. The final oral examination is administered by a committee chosen by the student and their research advisor and approved by the Graduate School. The committee is chaired

by the students academic advisor. If the student has multiple advisors, all advisors should be on the committee. The committee must consist of at least four members. At least three members of the committee must be current Loyola graduate faculty or former Loyola graduate faculty up to one year after resignation or retirement. Two members, at minimum, must be from within the CS Department. The committee must have at least one member whose primary appointment is not within the CS department. Students must designate at least three members of their committee to be readers of their dissertation. For detailed information, see Doctoral Committees.

Committee members from the following categories must be approved by the CS Graduate Committee: faculty from a department without a graduate program, academic staff (including emeritus faculty), visiting faculty, faculty from other institutions, scientists, research associates, and other individuals deemed qualified by the Graduate Committee. To seek approval, students should prepare a 2-4 sentence written explanation of why an individual should be allowed to serve on the committee. This explanation is due to the CS Department Manager no later than 1 month before the student's defense.

The format of the defense typically involves public presentation of selected research conducted to fulfill the requirements of the PhD degree. Questions may be asked at any point in the presentation. After the presentation, the chair of the committee will ask any public attendees to leave the meeting and the committee will ask further questions of the student. Then the student will be asked to leave so the committee can discuss the students performance and whether to recommend or require changes to the PhD thesis.

A student must provide a copy of their PhD thesis to the defense committee members at least two weeks prior to the scheduled defense.

At least four weeks prior to the defense date, students must turn in the Final Oral Examination Warrant Request Form to the CS Department Manager.

## 7.8 Progress Report

**The Graduate School's policy** is that the PhD must be completed within eight years from the beginning of PhD study. This timeframe can be extended in the event that the student is making good progress.

Students who are unable to hold their defense within five years must submit a progress report to the Graduate Committee. The progress report should be prepared in consultation with the advisor and include the following:

- Date of the progress report
- Name of the student and matriculation date
- Name of the advisor
- Accomplishments to date (300 words or less)
- Extenuating circumstances, if any
- Plans and timeline for degree completion, including a planned defense date
- A list of papers published, in press or submitted, including authors
- Letter from the advisor supporting the plans to complete the degree

Progress reports are emailed to the CS Department Manager. Progress reports will be evaluated by the CS Graduate Committee, which will make a recommendation to the Graduate School regarding whether an extension should be granted.

## 7.9 Graduation Procedures and Checklist

In the final semester (graduation term), the following must be completed:

- Must be enrolled in at least three credits
- Apply to graduate in the Student Center
- Notify CS Department Manager of plans to graduate via email (include name, degree, faculty advisor's name, and approximate date of defense).
- Thoroughly read the Graduate School's **Formatting Manual for Theses and Dissertations** and complete all the respective tasks.

- **Final thesis format must be approved by the Graduate School in the semester you are graduating.** The Graduate School circulates an email with deadlines each semester. Be sure the have your thesis formatting approved by the deadline!
- Confirm all final grades are entered, with exception to the current semester (no incomplete, unreported, or progress grades).
- Schedule and complete a pre-check appointment with the Graduate School to answer formatting questions.
- Confirm defense time with committee members (Note: defense date and time can change as long as it is within the same semester, but committee members must stay the same).
- Request final oral examination warrant at least four weeks prior to defense date by turning in the final oral examination warrant request form to the CS Department Manager.
- Send thesis to committee members at least two weeks prior to defense date.
- Make sure your “diploma” and “mailing” addresses are up to date in Student Center to receive diploma.
- If a student needs proof of degree sooner than the degree conferral date, they should make sure all grades are submitted prior to making this request and reach out to the CS Department Manager.
- After the degree conferral date is posted on a student’s transcript, students may request a Degree Completion Letter in order to prove their degree prior to receiving their diploma.

## 7.10 Grades and GPA

Students in the CS PhD program must maintain a minimum GPA of 3.5 across all courses during their graduate studies at Loyola. They must further earn a grade of *A* in their three qualifying courses.

Grades and GPA are taken into consideration for satisfactory progress evaluation. Furthermore, the Graduate Committee also reviews a student’s grades when deciding whether to grant Advanced Graduate Standing.

## 7.11 Participation in Commencement

Loyola University Chicago holds commencement ceremonies in May only. A student is eligible to participate in Loyola University Chicago’s May commencement celebration if the student (1) has successfully defended and submitted their materials to the Graduate School or (2) has submitted their thesis for format check by the deadline for August conferral and has scheduled their defense prior to July 1. December graduates are invited to participate in the May commencement of the following calendar year.

## 7.12 Graduation Application

The Graduate School reviews applications for graduation (conferral of degree) three times a year, during the Fall, Spring, and Summer semesters. Graduate applications are completed on LOCUS ([locus.luc.edu](http://locus.luc.edu)). Below are the application deadlines for degree conferral that correspond to each term:

Review Term	Deadline	Degree Conferral
Fall	August 1	December
Spring	December 1	May
Summer	February 1	August

For more information on graduation applications, refer to the Graduate School website ([luc.edu/gradschool/graduation/master](http://luc.edu/gradschool/graduation/master))

## 7.13 Earning a Master’s Degree Along the Way

Students admitted to the CS PhD program may earn a Master’s degree along the way. Students must satisfy all degree requirements for the MS degree.

To earn an MS degree, the Graduate School must officially enroll you as an MS student. The Graduate School’s Associate Dean of Student Academic Services can officially add PhD students to the MS degree. Once you are officially added to the MS degree and you have completed the degree requirements, you may apply for graduation through the [Graduate School Progress System](#).

## 8 Funding and Financial Information

Students enrolled in the MS in Computer Science Machine Learning or Systems options are not eligible to apply for teaching assistantships (TA) through the department. These positions are reserved for PhD students only. Research assistantships (RA) are in rare cases awarded to MS students at the discretion of faculty advisors, but most positions are reserved for PhD students. All students are eligible to apply for scholarships, external funding, and financial aid.

- [LUC Financial Aid Office](#)
- [On-campus student jobs](#)

Students in the MS Research option and PhD degree programs are eligible for financial support through Loyola, including fellowships and assistantships (RAs and TAs). Students who have accepted a TA appointment are not allowed to switch to an RA appointment within four weeks of the start date of the upcoming term.

The CS department admits all PhD students with a funding plan, either TA, RA, or funded through an external fellowship or program.

## 9 Course Enrollment

The Graduate School considers full-time enrollment to be 9 credits per semester during the Fall and Spring semesters. Students funded under research assistantships during the Summer must register for GSSM S60-001 to maintain full-time status during the Summer term.

Students are required to maintain full-time student status for Fall and Spring semesters for a variety of reasons: visa eligibility, fellowships, assistantships, financial aid, external funding agencies, and ECE satisfactory progress requirements. See [Satisfactory Progress – Academic Expectations](#) Section 10 for more information.

International students have strict enrollment requirements and should consult with an advisor from the International Student Services office with questions about their visa regulations.

## 10 Satisfactory Progress – Academic Expectations

## 11 Student Health Insurance Coverage

Loyola University partners with United Healthcare Student Resources to provide health insurance coverage for students—see [Office of the Bursar's](#) health information page for information on eligibility and costs. Under federal law, all international students with F-1 and J-1 visas are required to have health insurance.