



INDIANA UNIVERSITY

**COMPUTER SCIENCE**

# Computer Science Graduate Degree Handbook

For the Ph.D., M.S., and Accelerated M.S. Degrees

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2018 – 2019

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Computer Science Graduate Studies Office  
[sicecsiu@indiana.edu](mailto:sicecsiu@indiana.edu)

## Welcome!

On behalf of the faculty, staff, and students of the School of Informatics, Computing, and Engineering, we are delighted to welcome you to our graduate programs in Computer Science.

We are so happy that you have chosen Indiana University as your graduate institution and Bloomington as your home for the next few years. You've already impressed us with your achievements in your undergraduate work and elsewhere. You're here because we believe that you have the potential to become an independent researcher and leader in the field, and that we have the faculty, staff, resources, and environment to help you undergo that transformation.

Our graduate program in Computer Science is carefully designed to be flexible enough to accommodate your specific interests and goals, while being rigid enough to ensure that every student who graduates from our program has demonstrated a thorough and rigorous mastery of the field. Ensuring this balance means that IU, as with any university of its size and prestige, has rules and policies as you pursue your degree.

This handbook is your guide to navigating those rules, and we strongly urge you to read it carefully. You'll find that some of our policies are quite flexible, such as the choice of your elective courses, while some are more rigid, such as the GPA requirements. And some of our policies are absolute and unwavering: our commitment to fairness, academic integrity, scientific rigor, and respect for all people. Understanding them now can save you much time and trouble later on.

The path towards a graduate degree will not always be easy, and you may feel lost from time to time. When this happens, *please be proactive* and reach out so that we can help! The staff in the Computer Science Graduate Studies Office is your first point of contact. They can also help direct you to the countless other resources and offices across campus. And please feel free to contact either of us directly when you have concerns, questions, suggestions, or just want to chat. We want you to succeed -- we succeed when you succeed!

Welcome once again. We can't wait to see what you'll accomplish here!

Dr. David Crandall  
Associate Professor  
Director of Graduate Studies

Patty Reyes-Cooksey  
Director of Graduate Administration

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# 1. About this Handbook and the CS Graduate Office

Computer Science offers the Ph.D. (Doctor of Philosophy) in Computer Science, the M.S. (Master of Science) in Bioinformatics, Computer Science, Security Computing, and the Graduate Certificate in Secure Computing. The purpose of this handbook is to provide students pursuing the Ph.D. or M.S. in Computer Science (CS) with an overview of the rules governing the program. The policies and procedures contained in this handbook are subject to change or revision at any time. In any case, where current university policy differs from the following statements, university policy takes precedence. Please contact the Computer Science Graduate Studies Office (CSGSO) for all student service needs.

## 1.1. CS Graduate Office Contacts and Staff

Whenever you need to contact the CS Graduate office, please email us at [sicecsiu@indiana.edu](mailto:sicecsiu@indiana.edu). The office includes:

- Patricia (Patty) Reyes-Cooksey, Director of Graduate Administration
- Regina Helton, Associate Director of Graduate Student Services
- Rachael Lee, Graduate Records & Admission Coordinator
- Shawn Linn Davenport, Graduate Admissions Services Coordinator
- Sherrie Lynn Denney, Graduate Admissions & Student Services Assistant
- Dr. David Crandall, Director of Graduate Studies

## 1.2. Important resources

Throughout this handbook, you'll see references to the following important websites, forms, and other resources:

- [ACM Code of Ethics and Professional Conduct](#)
- [Computer Science Department Form](#)
- [Integrity in Graduate Study: A Graduate School Guide](#)
- [Indiana University Code of Student Rights, Responsibilities, and Conduct](#)
- [Indiana University Graduate School Bulletin](#)
- [Indiana Graduate Student Academic Appointees Guide](#)
- [Indiana University Office of International Studies website](#) and contact email: [ois@iu.edu](mailto:ois@iu.edu)
- [One.iu.edu website](#)
- [University Graduate School \(UGS\) website](#)

## 2. M.S. in Computer Science Curriculum

The **M.S. in Computer Science** program examines the many aspects of computing and their practical applications. The program includes a total of 30 credits in four categories: Foundations, Systems, Computer Science, and a Creativity Requirement.

### 2.1. Course Requirements

The Master of Science in Computer Science program includes a total of **30 credits** in the following four categories:

**1. Foundations (3 credits).** Choose one of:

- CSCI B501: Theory of Computing
- CSCI B503: Algorithm Design and Analysis
- CSCI B505: Applied Algorithms

**2. Systems (3 credits).** Choose one of:

- CSCI P536: Advanced Operating Systems
- CSCI P538 Computer Networks

**3. Computer Science Courses (15 credits)**

- Any CSCI 500+ level courses **except** for CSCI A500-A599.
- This may include a maximum of 3 credits of CSCI independent study (CSCI Y790, Y791, Y792, Y793).
- This **may not** include CSCI-Y798 Professional Practicum/Internship.
- This **may not** include courses from other departments or programs (e.g., ENGR, ILS, INFO, STAT).

**4. Creativity Requirement (9 cr.)**

- Any SICE 500+ level courses (including CSCI, ENGR, ILS, INFO or STAT).
- This may include a maximum of 3 credits of Y798 Professional Practicum/Internship (see below).
- This may include a maximum of 6 credits of independent study (e.g., CSCI Y790, Y791, Y792, Y793, or the equivalent in ENGR, ILS, INFO, or STAT).

### 2.2. Course credits for internships

One credit of CSCI Y798 is awarded for each approved internship. An internship requires a minimum of 160 hours of work. The internship must be academically related to the program of study. Internships during the Fall and Spring terms, as well as during a student's final term in the program, must be either conducted in Bloomington or conducted remotely while the student is physically in Bloomington. For this reason, most students take internships during the Summer.

### 2.3. Master's thesis option

The M.S. program thesis option gives students the opportunity to conduct a research project and report it in a formal Master's Thesis. This option may be a good choice for students interested in eventually pursuing a Ph.D. or a research-oriented career trajectory. Students interested in this option should begin by identifying a C.S. faculty member who is willing to supervise their thesis, typically near the end of the first year in the program. Once a faculty member has agreed to supervise, students should contact the Computer Science Graduate Studies Office to seek approval of the Director of Graduate Studies, and then take 6 credits of Y792, typically three credits in Fall and three credits in Spring of the second year in the M.S. program. Course permission is provided by the CSGSO after CS MS Director approval is granted. The student should identify another faculty member to serve as the second member of their Master's thesis committee. The completed Master's Thesis must be approved by the committee and submitted to the Computer Science Graduate Studies Office before the 15<sup>th</sup> day of the month in



which the student plans to graduate. Exact requirements for the thesis, including the requirement for an oral defense, will vary depending on the supervisor and the committee.

## 2.4. Requirements worksheet

CORE REQUIREMENT	COURSE	TERM	CREDITS	GRADE
1) <b>Foundations</b> - B501, B503, B505			3	
2) <b>Computer Systems</b> – P536, P538			3	
3) CSCI B500+, C500+, P500+			3	
4) CSCI B500+, C500+, P500+			3	
5) CSCI B500+, C500+, P500+			3	
6) CSCI B500+, C500+, P500+			3	
7) CSCI B500+, C500+, P500+, or Y700+ <b>except</b> Y798			3	
8) Any CSCI, ENGR, ILS, INFO, or STAT 500+ <b>except</b> independent studies (e.g. Y791-Y793)			3	
9) Any CSCI, ENGR, ILS, INFO, or STAT 500+			3	
10) Any CSCI, ENGR, ILS, INFO, or STAT 500+			3	
			<b>30 Credits</b>	<b>GPA</b>

## 2.5. Recommended Prerequisites

The courses listed below are recommended for students that have not completed an undergraduate degree in Computer Science. Students must at least take or know the material covered in C241 (Discrete Structures), A592 (C212, Intro to Software Systems), and A594 (C343, Data Structures). It is also desirable to have taken or be familiar with the material in A591 (C211: Intro to Computer Science), A593 (C335: Computer Structures), and A596 (C311: Programming Languages).

## **2.6. Graduation**

Graduation instructions are sent out prior to the end of the students' last term. Students will need to follow the directions provided via email by the CSGSO. Students will be asked to submit their Program of Study listing all courses that have been completed, including grades for each course, and the overall GPA. This information should be submitted to the CSGSO via email at [sicecsiu@indiana.edu](mailto:sicecsiu@indiana.edu) for review.

### 3. Accelerated M.S. Program Curriculum

The **Accelerated Master's Program** combines the Computer Science B.S. and M.S. degrees to enable highly focused and motivated students to organize their studies so as to earn the two degrees in five years from the time of matriculation to the university. The program's overall course requirements add up to as much as nine fewer credit hours than the sum total of the B.S. and M.S. degrees taken individually.

#### 3.1. Admission to and status in the program

For admission to the Accelerated Master's Program, students must have earned a major and program GPA of at least 3.0 at the time of admission to the program. Students must complete the program contract with their advisor prior to submitting the application to the University Graduate School. This contract and major change cannot be completed until 12 CSCI credits have been earned.

Students in the program will be classified as undergraduates through the last semester in which they are enrolled in undergraduate requirements. Students in good standing, defined as a major and program GPA of at least 3.0, must submit the standard application to the University Graduate School by January 1 prior to the academic year they want to transition to graduate status. Those not in good standing at any time are dropped from the program and reclassified as undergraduate B.S. students. If the transition to graduate status is delayed for any reason, Accelerated Master's status will revert to undergraduate B.S. status and the student will be encouraged to apply to the Computer Science M.S. program.

Students are advised to check on the effect that transition to graduate status may have on existing undergraduate funding; the possibility of graduate funding is conditional upon transition to graduate status.

Once admitted to the program, if a student switches out of Accelerated MS status, they may not switch back into the program after April 15th. These students will be encouraged to apply for the Computer Science M.S. program.

#### 3.2. Program requirements

Students in the Accelerated Master's Program must complete at least 15 hours of coursework while registered in graduate status. Normally, this would encompass no fewer than two semesters. Students will need to take at least one graduate level course in their senior year, while in undergraduate status, to ensure the program completion within five years. Students should consult with the undergraduate advisor regarding appropriate graduate level courses. Permission to enroll in graduate level courses must be obtained from the course instructor or your advisor.

The B.S. and M.S. degrees must be pursued simultaneously. The student must graduate with both degrees at the same time and apply to graduate for both degrees with the undergraduate recorder.

#### 3.3. Course requirements

- A minimum of 141 credit hours;
- Major GPA of at least 3.0;
- Cumulative GPA for graduate courses of at least 3.0;
- All Computer Science B.S. degree requirements; and
- At least 21 Computer Science credit hours beyond the requirements for the B.S. degree at 500 level or above. This may not include CSCI-Y 890. At least 15 credit hours need to be CSCI courses for majors, and the remaining 6 credit hours may be any CSCI, ENGR, ILS, INFO, STAT, or MATH courses at 500 level or above. At most 6 combined credit hours may be CSCI-Y 790, Y 791, Y 792, Y 793 or Y 798.

## 4. Ph.D. in Computer Science Curriculum

The **Ph.D. program in Computer Science** offers the opportunity to conduct theoretical and practical research in a broad range of subfields of Computer Science, or in the intersection of Computer Science and other disciplines (e.g. Biology, Cognitive Science, and Statistics).

A total of 90 credit hours of graduate-level (500+) coursework is required. Any course listed in the Computer Science program in the [Indiana University Graduate School Bulletin](#) that carries graduate credit counts toward this requirement.

### 4.1. Ph.D. Core Requirements

Ph.D. students must complete 24 credit hours of courses in Computer Science at or above the 500 level, other than the A500-A599 courses. Six courses (24 credits) from the four core areas below must each be completed with a minimum grade of B (3.0). This is in addition to the University Graduate School (UGS) requirement of a B (3.0) average for all courses taken. At least one course must be taken from Foundations, at least one course must be taken from Computer Systems, and at least one course must be taken from either Programming Languages or Intelligent Systems.

- **Foundations of Computing:** CSCI-B501 Theory of Computing, CSCI-B502 Computational Complexity, CSCI-B503 Algorithms Design and Analysis
- **Computer Systems:** CSCI-B534 Distributed Systems, CSCI-P536 Advanced Operating Systems, CSCI-P538 Computer Networks
- **Programming Languages:** CSCI-B521 Programming Language Principles, CSCI-B522 Programming Language Foundations, CSCI-P523 Programming Language Implementation
- **Intelligent Systems:** CSCI-B551 Elements of Artificial Intelligence, CSCI-B555 Machine Learning, CSCI-B561 Advanced Database Concepts, CSCI-B565 Data Mining

The remaining six credits may be any CSCI courses at or above the 500 level, other than A500-A599. This may include independent study (Y790) courses, for example.

## 4.2. Course requirements worksheet

CORE REQUIREMENT	COURSE	TERM	CREDITS	GRADE
• Foundations: B501, B502, B503			3	
• Computer Systems: B534, P536, P538			3	
• PL: B521, B522, P523, or Intelligent Systems: B551, B555, B561, B565			3	
• CSCI-500+ from course listed above			3	
• CSCI-500+ from courses listed above			3	
• CSCI-500+ from courses listed above			3	
• CSCI-500+ course or Y790			3	
• CSCI-500+ course or Y790			3	
			<b>24 Credits</b>	<b>GPA</b>

## 4.3. Minor Area Requirement

The Ph.D. requires a minor, and three possible options are available to satisfy this requirement:

### 4.3.1. External Minor (credits vary)

An external minor is one that is awarded by another Indiana University department or graduate program, and that is approved by the Computer Science Program. The credit hours required *vary* depending on the graduate program offering the minor.

### 4.3.2. Internal Minor (9 credits)

An internal minor in Computer Science consists of at least 9 Computer Science credits in courses other than reading and research and in an area other than the student's specialization. The area and the courses must be approved by the student's advisory committee.

### 4.3.3. Individualized Minor (12 credits)

An individualized minor is at least 12 credits spanning at least two Indiana University departments/degree programs. Requests for Individualized Minors must be submitted *prior* to completion of the coursework. The minor is listed as “*individualized minor*” on the transcript. The CSGSO will assist you with the Individualized Minor request process.

In order to approve an individualized minor, the following information should be submitted by the faculty advisor to the CSGSO:

- The student’s name, IU ID #, and major program;
- The title of the minor;
- The purpose of the Individualized Minor, such as how it will add depth/breadth to the student’s major in a way that other, formal minors may not;
- A list of coursework to be used to satisfy the minor; and
- If and how the minor will be examined in the Qualifying Exam process.

### 4.4. Recommended Prerequisites

The courses listed below are recommended for students that have not completed an undergraduate degree in Computer Science. Students must at least take or know the material covered in C241 (Discrete Structures), A592 (C212, Intro to Software Systems), and A594 (C343, Data Structures). It is also desirable to have taken or be familiar with the material in A591 (C211: Intro to Computer Science), A593 (C335: Computer Structures), and A596 (C311: Programming Languages).

### 4.5. Advisors

Upon entering the Ph.D. program, the Director of Graduate Studies (DGS) and the Director of Graduate Administration (DGA) will provide academic advising during the program orientation sessions. The DGS will serve as the student’s temporary formal advisor until the formation of the Advisory Committee, although students are encouraged to identify an informal advisor as soon as possible. After the Advisory Committee is formed, the DGS and DGA are still available to provide assistance throughout the student’s academic career.

### 4.6. Milestones and Timeline

All Ph.D. students must accomplish specific milestones to satisfy the requirements of the degree. Each student will be evaluated by the full CS faculty during the annual Graduate Evaluation Day (GED), typically in November, for their progress in terms of milestones, course grades, and Student Academic Appointment (SAA) performance. Students whose progress in the program is less than satisfactory will be required to provide an action plan to the Director of Graduate Administration addressing the problems that have caused the delay and/or unsatisfactory performance.

#### 4.6.1. Form the Advisory Committee

Each doctoral student is responsible for forming an Advisory Committee (AC) by the end of their first year. This committee will administer the Qualifying Examination and must consist of three faculty members: one from the major area to serve as Chair, one additional member from the major area, and one from another area. At least two members must be members of the graduate faculty, and at least two members must be in Computer Science. Typically, the Chair is in Computer Science, although other faculty from the School of Informatics, Computing, and Engineering may be eligible with the approval of the DGS. Typically, the member not in the major area represents the student’s intended minor area.

To form your Advisory Committee:

- Identify a faculty member from CS that will serve as chair of the Advisory Committee;
- Identify two additional faculty members to serve on the Advisory Committee, one from the major area and one in another area;
- Contact each member with a request to serve on the committee; and
- Submit completed [Advisory Committee Form](#) to the CSGSO.

#### 4.6.2. Changing the Advisory Committee

Sometimes an AC member needs to be replaced. A committee change can be requested by submitting a new [Advisory Committee Form](#) to the CSGSO. All members of the new committee must consent to this change. Although approval of the old committee is not needed, the faculty members leaving the committee should be consulted as a professional courtesy.

#### 4.6.3. Qualifying Examination

Ph.D. candidates are expected to pass a qualifying examination by the first term of the third year in the program. The exam may only be taken after the student completes the 24-credit CS core requirements. If failed, the exam may be retaken once, by the end of the third year. Students who fail the second exam will not be allowed to continue in the program.

The examination is expected to have a written and an oral component and to demonstrate (1) in-depth knowledge of the student's specialization, (2) knowledge of some other area of computer science, (3) academic writing competence, and (4) the ability to defend a position in an oral setting.

The format of the examination is determined by the Advisory Committee but will follow the following general requirements. The student and the committee agree on a set of three topic areas, including two within the student's area of specialization, all of which must be approved by the Director of Graduate Studies. The student will be examined on each topic through either a conventional written exam or a paper that answers a specific question within the topic. The examination must include at least one written paper; if two or more papers are written, they should reflect different methodological approaches to the content area (mathematical analysis, simulation, programs, experiments, etc.).

Students have three months to prepare for the exam, normally during the summer following their second year in the program. The student may consult previous work related to the topics but may not discuss the exam with other colleagues or the Advisory Committee.

For a conventional written exam, each committee member writes 1-2 questions, and the student has two days, four hours per day, to answer them, using any resources they wish to bring to the exam room. Within three weeks of the written exam, the student will meet with the Advisory Committee to orally defend the answers and respond to follow-up questions. If the committee finds the written and oral answers satisfactory, the student passes. The student may also be required to provide further written elaboration to one or more questions before passing.

For topics examined via written paper, the student will be required to meet with the Advisory Committee to defend your paper orally, normally within a week of its submission. This defense is open to the School of Informatics, Computing, and Engineering faculty as observers, but the decision to pass lies solely with the Advisory Committee. Following an oral defense of a written paper, the student may be asked to rewrite it and possibly meet with the committee again for a second oral defense.

When the written exam is given, the student is required to submit the [Qualifying Exam Scheduling Form](#) clearly indicating the date on which the student received the exam questions and the date before which the student is

scheduled to submit the written answers. This form must be signed by the Chair of the Advisory Committee and submitted to the CSGSO. If the exact date of the oral exam cannot be determined at the time when the written exam is given, leave the “Scheduled Date of Oral Exam” field blank. The student is responsible for emailing CSGSO with the date of the oral exam.

The student should bring the [Post Qualifying Examination Form](#) to the oral exam for the committee to fill out. The form should indicate the exam outcome with “pass” or “fail,” be signed by the Advisory Committee and be submitted to the CSGSO immediately after the oral exam. The outcome of the exam becomes official once the Director of Graduate Studies has reviewed the exam to ensure that the qualifying exam requirements have been satisfied.

Please note that the passing of the Oral Qualifying Examination is a critical date. Courses taken more than 7 years *prior* to this date must be revalidated, and dissertation work must be completed within 7 years *after* this date.

**Note for Transfer Students:** Neither candidacy nor a qualifying examination is transferable. All Ph.D. students must complete a qualifying exam at IU to be eligible for candidacy.

#### 4.6.4. Nomination to Candidacy (NoC)

Following the passing of the Qualifying Examination and the completion of all coursework required by the CS program (the core courses and the minor), the student may submit the Nomination of Candidacy e-doc via the [One.IU webpage](#). The e-doc will be routed to faculty committee members and the CSGSO for processing. It will then be reviewed by the University Graduate School (UGS) for final approval. Students are required to monitor the status of the e-doc until obtaining final approval from UGS. Students can find a [reference guide on the Nomination of Candidacy on the UGS website](#).

#### 4.6.5. Nomination of Research Committee (NoR)

After the Nomination to Candidacy Committee e-doc is approved, and at least six months *before* the Defense of the Dissertation, the student should form the Research Committee, which consists of at least four members: the Committee Chair, two or more additional faculty members Computer Science, and a representative of each minor. Typically, the Chair and the two additional faculty members are from Computer Science, but other faculty are eligible with the approval of the DGS and University Graduate School. All four must be members of the University Graduate School faculty. The Chair and at least half of the committee members must be endorsed members of the Graduate School faculty; a [list of endorsed members is published on the UGS website](#).

The Nomination of Research Committee (NoR) e-doc is submitted online via the [One.IU webpage](#). This form must be electronically approved by each of the Research Committee members, as well as by the Graduate School. This process often takes some time, and students should monitor the status of the e-doc, including reminding faculty on the Committee to approve it, until final approval from UGS.

#### 4.6.6. Thesis Proposal

The thesis proposal is submitted and defended *after* the completion of the Qualifying Examination, after Nomination to Candidacy, and after the Nomination of Research Committee. It consists of an oral presentation covering a submitted written research plan for the Dissertation. This examination is given by the Research Committee. Upon finishing the Thesis Proposal, the completed [Dissertation Proposal form](#), with “pass” or “fail” clearly marked and signed by the Research Committee, must be submitted to the CSGSO. If failed, the Thesis Proposal may be attempted again with the consent of the Research Committee.



#### 4.6.7. Announcement of Final Dissertation Defense

At least 30 days before the Dissertation Defense, the Defense must be formally announced. To request an announcement, the student must submit the Ph.D. Announcement form via the [One.IU webpage](#). This form may take several days to be processed and approved, so students should submit this form well ahead of the 30-day deadline.

#### 4.6.8. Dissertation Defense

A written elaboration of significant original research must be successfully presented to the Research Committee in a Defense of Dissertation as described in the [Graduate School Bulletin](#). An Oral Defense meeting, open to the public, is required.

The Defense must be scheduled at least 30 days after the formal Announcement of Final Dissertation Defense, and at least six months after the date that the Nomination of Research Committee is *approved* by the Graduate School (not when the NoR form is submitted). This is typically also at least six months after the Research Committee's approval of the Thesis Proposal.

All members of the committee are expected to participate in the student's defense in-person and on-campus with the student. If a member of the committee is unable to participate in person, an email from the member must be sent to the University Graduate School. The email should explain how he or she will participate in the defense off-site and why he or she is unable to participate in person.

Upon finishing the Oral Defense, the [Final Defense Approval form](#), with "pass" or "fail" clearly marked and signed by the Research Committee, must be submitted to the CSGSO. The

#### 4.6.9. Submit Dissertation

Following a successful Defense, the student should revise the Dissertation following the instructions of the Research Committee and receive approval from the committee before submitting the Dissertation to the UGS, typically within 60 days of the Defense. The Dissertation must be submitted within 6 months of the Defense and within 7 years from the date of passing the Oral Qualifying Examination. Students must maintain active student status (e.g., by enrolling in G901 or Y890) until the Dissertation is submitted. For more information, please review the UGS website.

#### 4.6.10. Application for Graduation

The Ph.D. degree is conferred by the University Graduate School (UGS). The Dissertation in its final form and the Abstract must be submitted to UGS at least 30 days *before* the expected date of degree conferral. Students who intend to participate in the Commencement are required to fill out a [graduation application e-doc](#), which is available at the [University Graduate School](#) webpage. Diplomas are mailed by the Office of the Registrar two to three months *after* the degree is conferred. It is the student's responsibility to verify that the Office of the Registrar has the proper mailing address on file. For more information, please review the UGS website.

### 4.7. Double Majoring

Students may pursue two majors in two departments simultaneously, if so recommended by each department and approved by the Dean. Two general requirements pertain to double majors: (1) there must be a substantive relationship between the two major fields, particularly with respect to the topic of the student's Dissertation; and (2) all degree requirements for each major must be fulfilled, including the passing of two sets of Qualifying Examinations. In some instances, it may be possible to count the same work toward requirements in both departments (e.g., a specific foreign language acceptable in both programs). The exact courses of study and examinations required are to be determined by members of the Research Committee from each of the majors. Any

area of substantial overlap in the two courses of study or in the examinations is to be negotiated by the committee as a whole and approved by the Dean.

There must be at least four faculty members on both the Advisory and Research Committees for a double major, with two from each of the majors. If other minor fields are involved, a representative must also be present from each of these areas.

A total of 90 credit hours is required for the Ph.D. degree with a double major. While judicious program planning may permit completion of some double majors within the 90 credit hours, other students may accrue additional hours due to the program of study required for each major. In recognition of such a possibility, students in the program will be allowed one additional year before they must take the Qualifying Examination. For a complete set of rules relating to Double Majors, students should consult the CSGSO.

#### **4.8. Graduate Evaluation Day (GED)**

The full CS faculty meet each Fall to review and evaluate the progress of each Ph.D. student, during Graduate Evaluation Day. In preparation, the DGA and CSGSO evaluate the academic records of all students in the CS Ph.D. program. As part of the evaluation process, students are required to complete and submit an online student self-evaluation. The form asks students to indicate:

- Completed academic milestones;
- Research progress, including results, writing, thesis proposal, independent study courses, conference papers and presentations, journal papers, etc.;
- Progress on program requirements, including courses taken, performance in courses, qualifying exams, thesis proposal, minor, etc.;
- Teaching, including course responsibilities, performance, student evaluations, course development, the independent teaching of courses, etc.; and
- Public service, including helping to organize events, activity in student organizations, help in departmental administration, etc.

In addition, the CSGSO collects evaluations from faculty members about the students they have advised, supervised, taught, or otherwise interacted with. During GED, the entire CS faculty review and discuss the progress of each Ph.D. student. After review, students will receive an email from the CSGSO with faculty assessment and recommendations.

#### **4.9. Obtaining an MS while pursuing the CS Ph.D.**

Ph.D. students may obtain the CS M.S. degree “along the way” by completing the CS M.S. program requirements. Students should contact CSGSO for further details.

**Note for international students:** In some cases, filing early for the M.S. can invalidate the practical training period for international students. The regulations regarding practical training state that students must apply within 30 days of the “completion of studies,” which in effect means upon completion of all requirements for the last degree earned. This regulation may pose problems for Ph.D. students who, for whatever reason, decide to leave with an M.S. degree. International Ph.D. students should consult with an International Services advisor before filing for an M.S. degree.

## 4.10. CS Ph.D. Timeline

This time table is a sample of how a student can finish the Ph.D. in about five years. Of course, every student's situation is different, so students are advised to consult with their advisor, their committees, and the DGS and Graduate Office for guidance more specific guidance.

### 1. Year 1

#### By the end of Fall, you should have:

- Finished 9 credits towards core course requirements;
- Transferred credits from an M.S. program, if applicable, with a [Transfer of Graduate Credit Form](#); and
- Explored research interests through coursework, meetings with faculty, attending colloquia and seminars, etc.

#### By end of Spring, you should have:

- Finished 18 credits towards fulfilling major course requirements (including independent study credits to explore research with a faculty member);
- Continued exploring research through coursework, meetings with faculty, colloquia and seminars, etc.; and
- Begun working with a faculty member on research through an independent study or research assistantship.

#### By end of Spring, you should have:

- Identified 3 Advisory Committee members, and submitted [Advisory Committee Form](#) to the Graduate Office.

### 2. Year 2

#### By end of Fall, you should have:

- Identified a minor;
- Finished 27 credits towards major and minor course requirements; and
- Have research in progress under supervision of a faculty member.

#### By end of Spring, you should have:

- Finished 36 credits, including all major courses and most minor courses;
- Scheduled qualifying exam and submitted the [Qualifying Exam Scheduling Form](#); and
- Written and submitted a research paper.

### 3. Year 3

#### By end of Fall, you should have:

- Completed 45 credits, including all major and minor courses;
- Passed your qualifying exam and submitted the [Post Qualifying Exam Form](#) to the CS Graduate Office.
- Applied for candidacy with the Nomination of Candidacy e-doc form; and
- Published and presented a paper at a conference.

#### By end of Spring, you should have:

- Obtained Ph.D. candidacy;
- Identified 4 faculty to be your research committee, and submitted the Nomination of Research Committee;
- Completed 54 credits; and
- Written and submitted a second research paper.

### 4. Year 4

#### By end of Year 4, you should have:

- Completed 72 credits;
- Completed and passed the dissertation proposal, and submitted the [Dissertation Proposal Form](#); and
- Written and submitted additional research papers.

## 5. Year 5

### **By end of Spring of Year 5, you should have:**

- Completed 90 credits;
- Completed a draft of the dissertation based on feedback from your advisor;
- Scheduled the Dissertation Defense at least 30 days ahead of time with the Dissertation Announce e-doc; and
- Continued to write and publish research papers.

### **By end of Summer of Year 5, you should have:**

- Successfully defended the dissertation and submitted the [Thesis Defense](#) form to the CS graduate office;
- Submitted the final version of the dissertation that incorporates your committee's required changes;
- Applied for graduation.

## 5. CS Graduate Program Expectations

### 5.1. Student Responsibilities & Professional Ethics

All students are expected to adhere to university, college, and departmental policy and procedures. Many of these policies are described in the [Indiana University Code of Student Rights, Responsibilities, and Conduct](#), the Academic Guide, and the [Graduate School Bulletin](#).

Students should also recognize that they are part of a larger profession of computing professionals. Ethical codes and ethical standards as they relate to professional associations and standards are of great importance. As a program, we closely monitor the overarching professional codes outlined in the [ACM Code of Ethics and Professional Conduct](#).

### 5.2. Commitment to Diversity & Inclusion

The School of Informatics, Computing, and Engineering is a community of diverse faculty, students, and staff from a wide range of cultures, nationalities, races, and social backgrounds. We are committed to maintaining an environment of inclusiveness and respect. SICE will respond vigorously to protect against any behavior from or towards members of its community that fosters intolerance or marginalization of other people.

Indiana University pledges itself to continue its commitment to the achievement of equal opportunity within the university and throughout American society as a whole. In this regard, Indiana University will recruit, hire, promote, educate, and provide services to persons based upon their individual qualifications. Indiana University prohibits discrimination on the basis of age, color, disability, ethnicity, sex, gender identity, gender expression, genetic information, marital status, national origin, race, religion, sexual orientation, or veteran status.

### 5.3. Academic Performance

Graduate students must remain in good standing throughout their graduate studies. This means that students are making satisfactory progress towards the completion of their graduate degree. All CS graduate students must maintain an average of 3.0 (B) or above. Any grades lower than a C will not be counted for credit towards the degree, however, these grades (e.g., C-, D+, D, D-, F) are counted in calculating the GPA, which must be a B (3.0) or above to continue in graduate study.

**In addition to the GPA requirements, Ph.D. students must be making satisfactory progress** on the other milestones towards their degree. This includes:

- Taking and successfully completing at least 9 credits of CS courses for credit towards their degree requirements each Fall and Spring semester, with an overall GPA of least 3.0;
- Maintaining a 3.0 GPA for the 24 credit hours of required Computer Science courses;
- Finishing Ph.D. Milestones in a timely manner;
- Acquiring candidacy and forming the Research Committee by the end of the 3rd year;
- Finishing 90 credits by the end of the 5th year; and
- Maintaining Academic Integrity.

### 5.4. Academic Probation

A C.S. graduate student may be placed on Academic Probation for any of the following reasons:

- The GPA falls below 3.0 (or, for Ph.D. students, the GPA in required CS courses falls below 3.0);

- Satisfactory progress is not being made towards the degree as determined by the CS faculty or the CS Director of Graduate Studies, in the evaluation of the student's work; or
- Failure to fulfill requirements which were stipulated at the time of admission, including English exams or required language training for international students.

When a student is put on Academic Probation, a recommendation will be given to the student to improve his/her academic standing with specific deadlines. The student's performance is evaluated again at those deadlines to determine if improvements have been made and goals have been met. If performance does not improve, the student may not be allowed to continue in the program.

## 5.5. Academic Integrity

**The Computer Science Department takes the issue of academic integrity very seriously.** The University, in its pursuit of the advancement of knowledge, has two intertwined missions: research, the development of new ideas, and teaching, the communication and refinement of these ideas. These missions require an atmosphere of mutual trust and respect. This document explains how the University's policy on academic integrity ([Indiana University Code of Student Rights, Responsibilities, and Conduct](#)) applies to computer science courses. Additional considerations which apply to graduate research activities are detailed in the document [Integrity in Graduate Study](#).

In the university research environment, the most productive work is rarely created by single individuals working alone. Rather, collaboration has been found to be the most productive mode of operation for all kinds of scholarly activities. However, appropriate credit is to be given to all the participants in collaborative work. Furthermore, new research work rarely stands without foundation; it is usually derived from previously reported research. In these cases, the original work is to be cited.

In the university teaching environment, students are partners in the educational enterprise. The same deference is shown for other students' ideas as is shown for researchers' ideas. Collaborative work may be encouraged; many students find that their learning is enhanced during discussions with other students. However, when such collaboration occurs, all of the participants are to be acknowledged (i.e., their names written on the resulting work). Similarly, in a paper that uses ideas developed by another person, the original author is to be cited (e.g., in a footnote). When ideas that were invented by another individual are used in a program, the original inventor is to be cited (i.e., in the program documentation).

### 5.5.1. What is to be encouraged:

- Turning in work that is done alone or with the help of the course staff.
- Turning in one assignment for a group of students, when group work is permitted.  
Discussion of coursework with other students, unless explicitly disallowed, and then separately writing up or implementing the details of solutions with acknowledgment of the other students.

The work of others that is submitted and appropriately acknowledged is never, of itself, cheating; but it may not earn you any credit for the assignment.

### 5.5.2. What is considered academic dishonesty

Academic dishonesty and serious breaches of trust include, but are not limited to:

- Cheating: Turning in someone else's work as your own, even with the permission of the original author, or facilitating someone else to turn in your work as his or her own
- Plagiarism: Turning in work without proper acknowledgment of the sources of the content contained within the work

- Stealing an exam paper or other course material
- Altering or interfering with grading
- Submit work with false or forged information/data
- Damaging other's work
- Deceiving an instructor or university official, for example, by claiming illness or family emergency
- Forging a signature on a document
- Offering bribes to gain academic advantage

### 5.5.3. What are the consequences of academic dishonesty?

The ordinary departmental level penalty for cheating is a failure in the course and notification of the department chair, with copies to the student, dean of the School of Informatics and Computing, dean of the student's school, and Dean of Students. University may enforce additional sanctions, especially for repeated offenses. Besides facing the sanction at the university and school level, the student will no longer be eligible for the guaranteed financial aid provided by the CS program. In all cases, the penalty will be more severe than not turning in the assignment. For more information, consult the [Indiana University Code of Student Rights, Responsibilities, and Conduct](#) which is the final authority on matters involving academic misconduct.

The Computer Science Department holds the need for academic integrity and the proper respect for ideas and authorship in the highest regard. As partners in the enterprise of scholarship, students are similarly to practice such respect. The Department also recognizes that issues of integrity and professional responsibility are life-long and calls your attention to the [ACM Code of Ethics and Professional Conduct](#).

## 5.6. Professional Development

Students are expected to be active members of the CS department and SICE community, engaging in activities that help them recognize potential career paths, set professional development goals, and build skills vital to entry into the professoriate and/or other professions. These expectations vary from field to field, even within Computer Science, so students are encouraged to discuss these expectations with their advisor and other faculty and staff. Examples of active participation include: actively engaging in class discussions, attending colloquia and seminars, participating in school and department social activities, presenting at conferences and workshops, volunteering for school service responsibilities, etc.

## 5.7. Career and Recruiting Services

The School of Informatics, Computing, and Engineering's Office of Career Services offers a variety of programs and services to help students find and succeed in internships and full-time jobs. However, the recruiting programs require participants to conduct themselves professionally and act in good faith during the application, interview, and employment offer processes. Participation in Career Services is a privilege, and is revocable without written notification if, for example, a student does not abide by these professional standards (for example, by accepting an offer but then continuing to interview for other jobs, accepting an offer and later rescinding it, or scheduling an interview with an employer and then failing to show up for the interview without sufficient prior notice). Information on SICE Career Services policies and professional standards can be found on the [SICE website](#).

## 5.8. Student Organizations

CS encourages students to expand their social and educational experience by becoming involved in student organizations. IU and SICE have a wide range of opportunities for students to get connected. Students can find information on student organizations by visiting the IU and SICE websites.

## 6. Academic Policies & Procedures

### 6.1. Email

At Indiana University, each student is expected to set up a University email account for use during the time in which a student is admitted and enrolled at the University. Students are expected to check their email frequently and consistently to stay current with university-related communications.

### 6.2. Student Services

The CSGSO is the point of contact for graduate student services. Please email [sicecsiu@indiana.edu](mailto:sicecsiu@indiana.edu) for assistance. Make sure to include your full name, program, and admit year in the body of the email.

### 6.3. Course Permissions

Some courses require course permission prior to enrollment. Please follow the instructions listed on the [Indiana University Schedule of Classes](#) for permission. If the course is listed as requiring permission from the instructor, please contact the instructor listed for the course, via email, to obtain permission. Some courses require department permission for enrollment. Please contact the CSGSO for department permission via email at [sicecsiu@indiana.edu](mailto:sicecsiu@indiana.edu). (Note: The course should be approved as part of your approved Plan of Study *prior* to requesting CSGSO permission).

In particular, research and independent study courses typically require permission, including:

- CSCI-Y790, which may be taken by M.S. students or by Ph.D. students before formal approval of Candidacy;
- CSCI-Y890, which is only allowed for Ph.D. Candidates (after Candidacy has been approved), and are for Ph.D. Dissertation Research; and
- CSCI-G901, which is allowed only for Ph.D. Candidates who have completed 90 credits.

### 6.4. Independent Study (CSCI-Y790)

Independent study courses allow students to conduct individualized projects under the supervision of a faculty member. These credits are usually used for students to conduct research or to explore specific areas of computer science that are not well covered by any specific formal course. The first step in arranging a CSCI Y790 is to identify and contact a faculty member who is willing to supervise the independent study. Once they have given their permission, you can sign up for their section of CSCI Y790 through the [One.iu website](#) and register up to the allowed amount of credits per the outlined program requirements. If the faculty member is not in Computer Science, see Y790 with Supervision Outside CS, below. If the faculty member is in CS but does not have a CSCI Y790 section assigned to them, contact the CSGSO for permission to enroll in the section under the Director of Graduate Studies. It is important to note that students are required to register via the [One.iu website](#) for all classes during the registration period. Please refer to the Office of the Registrar website for all registration timelines. If you have difficulties registering for CSCI-Y790, email the CSGSO: [sicecsiu@indiana.edu](mailto:sicecsiu@indiana.edu).

#### 6.4.1. Y790 Checklist

To enroll in an independent study course:

- Formulate Independent Study plans, and identify a faculty member with whom you would like to work;
- Contact and discuss your Independent Study with the faculty member;
- Obtain approval from faculty member to register for CSCI-Y790 under their supervision;



- Register for CSCI-Y790 via the [One.iu website](#);
- Successfully complete CSCI-Y790.

#### **6.4.2. Y790 with Supervision Outside CS**

If the Independent Study supervisor is outside of the CS faculty, you must find a CS faculty member, often the Director of Graduate Studies, to co-supervise the project. The faculty member must assess the student's work at the end of the semester and submit the grade for the course. Please be sure that all needed information is provided to the faculty at the end of the semester in time for the grade submission deadline. If the Independent Study supervisor is outside of CS but within SICE, then you may alternatively enroll in the independent study course offered by the Supervisor's department (e.g., ENGR E687). However, note that these non-CSCI independent study courses will not count towards the 24-credit core requirements.

#### **6.5. Ph.D. research courses (CSCI-Y890 and CSCI-G901) (Ph.D. students only)**

CSCI-Y890's are only taken by Ph.D. students after candidacy has been approved and are for Dissertation Research. Students should request department permission by emailing the CSGSO at [sicecsiu@indiana.edu](mailto:sicecsiu@indiana.edu). Please provide your advisor for the course, full name, and admit year.

Ph.D. Candidates may register for CSCI-G901 after competing 90 graduate credits. The advantage to taking G901 is that it requires only modest tuition, which is advantageous for students who are supporting their own education. Students may take up to 6 semesters of G901; students must register for CSCI-Y890 after reaching the 6-semester limit. Please make sure you are eligible for CSCI-G901 registration before requesting permission from the CSGSO at [sicecsiu@indiana.edu](mailto:sicecsiu@indiana.edu).

## 7. Enrollment Requirements and Policies

### 7.1. Full-time Status

To be considered a full-time student, a student must register for at least 8 credit hours, according to IU policy. Typically, a student does this by choosing three 3-credit courses (totaling 9 credits) that count towards the intended degree. Students must enroll in three courses even if they are making up Incompletes from a previous semester; students must maintain full-time enrollment as they make up incompletes.

**Tip: “Add and drop” instead of “drop and add:”** When replacing courses, be sure to add the new course first and then drop the old, in order to always be above the minimum number of credits for status.

### 7.2. Online courses

SICE offers a variety of online courses. While these are primarily designed for online students who are not physically in Bloomington, they generally may be taken by residential students. However, international students should consult with the [Office of International Studies](#) before registering for online courses because of visa regulations requiring a minimum number of residential credits per semester. For most international students, our understanding is that only 3 online credits per semester count towards a student's full-time residency requirement, so a typical student who must register for at least 8 credits to maintain visa status could take online courses as long as at least 5 residential credits are also taken. In a typical student's final semester in the program, at least 1 residential course would have to be taken. Again, these regulations are complex and differ depending on the visa and other variables, so students should consult with OIS before registering.

### 7.3. Waitlist

If a course is full, a student may add themselves to the waitlist – the “queue” of students wanting to add the course. If students who are enrolled in the course drop, or if the enrollment capacity is increased, students on the waitlist are automatically admitted into the course in the order in which they were added. This waitlist process is controlled and conducted by the University Registrar; to ensure fairness, the Registrar does not permit faculty or departments to add or prioritize students outside of this first-come-first-served process. The waitlists expire on the fourth day of the semester; after that, students must submit eAdd requests via the [One.iu website](#), which are considered and approved by the instructor of the course (and assuming that the course is no longer full).

### 7.4. Drop and Refunds

Students should finalize their schedule promptly; failing to do so may have significant financial implications. For course drops in the first week, IU refunds the full tuition for the course. After that, IU refunds 75%, 50%, and 25% when a course is dropped in the second, third, or fourth week, respectively. Later drops receive no refunds. We strongly encourage you to become familiar with the [Office of the Bursar](#) policies and fee payment information. It is the student's responsibility to know the policy and deadlines governed by the IU [Office of the Bursar](#) and [Office of the Registrar](#).

### 7.5. Withdrawals from courses

During the automatic withdrawal period, students who withdraw will be assigned an automatic grade of W; see the [Registrar's official calendar](#) for exact dates. After that period, withdrawals are only possible with approval from the Dean, which is normally given only for urgent reasons such as illness. Note that CS students must successfully complete at least 9 credits of courses towards their degrees each semester to be considered making satisfactory progress.

## 7.6. Registration, Adding and Dropping Courses

Newly admitted students will receive information about course registration during orientation. The timetable for course registration, as well as for adding and dropping courses, is set by the University and published in the [Official Academic Calendar](#). All students are responsible for becoming familiar with the policies, procedures, and deadlines of the [Office of the Registrar](#) and the [Office of the Bursar](#).

The Office of the Registrar assists students with a variety of services relating to registration, immunization, residency and more. Students should become familiar with calendars, schedules, policies, and other student-related information that the Registrar maintains.

### 7.6.1. Registration Requirements during Program of Studies

Unless permission has been granted through the Leave of Absence policy below, any student who does not enroll in classes for a period of two years is considered to have left the program and must apply for re-admission if they wish to continue the program. They must meet current admission criteria, and if re-admitted, fulfill current program requirements.

### 7.6.2. Registration Requirements during Ph.D. Student Candidacy (Ph.D. Students only)

For Ph.D. students, unless permission has been granted through the Leave of Absence policy below, during the Dissertation portion of the program (after the student has passed the Oral Qualifying Examination), students must enroll in at least 1 credit hour per term in order to maintain active student status. Students do not need to register for Dissertation credit during the summers unless they plan to graduate or defend the Dissertation in the summer. Students who fail to register for any semester must back-enroll for all semesters missed in order to graduate. There is a charge per semester (plus tuition) for back-enrollment.

## 7.7. Leave of Absence

The CS program realizes that some life circumstances may interfere with a student's ability to make progress in the program, such as a serious long-term illness, care of a newborn child, death of a close family member, or long-term illness of a close family member requiring the student's care. To request a Leave of Absence from the CS Ph.D. or M.S. program, a student should discuss the nature and length of the leave with the Director of Graduate Administration and/or Director of Graduate Studies. The student will then need to complete a [Leave of Absence Form](#) signed by their Advisor and the DGS. Students should then submit the form to the CSGSO for review.

## 7.8. Transfer Credits

Some graduate coursework completed at other accredited universities may be transferred into the CS Ph.D. or M.S. program. All coursework transferred must be from an accredited college or university, and no transfer credit will be given for any courses with a grade lower than a B. The student must receive approval from an IU faculty member associated with each course for which credit is transferred. Transferred courses must be relevant to the student's program of studies and must be submitted to the CSGSO using the [Transfer of Graduate Credit form](#) for final approval by the Director of Graduate Studies and the university.

For M.S. students, a course may not be counted toward degree requirements if it has been completed more than five years prior to the awarding of the degree. For Ph.D. students, courses taken more than seven years before the passing of the qualifying exam must be revalidated (see below) in addition to being transferred.

### 7.8.1. Transfer Credit Checklist

- Identify the course at IU that may be considered equivalent to the course to be transferred;

- Contact a faculty member who teaches the equivalent course at IU;
- Provide the faculty member with the course description, syllabus, sample homework assignments, projects, and exams, and/or other documentation requested by the faculty member;
- Complete the [Transfer of Graduate Credit Form](#) for the faculty member to sign;
- Submit the completed form to the CSGSO for review and final approval; and
- Allow 3-5 business days for credit(s) to be reflected on the transcript.

### **7.9. Revalidation (Ph.D. students only)**

Normally, no course may be counted toward degree requirements if it was completed more than seven years prior to the passing of the Qualifying Examination. However, the student's advisor, after consultation with the Advisory Committee, may recommend to the DGS that coursework taken prior to the above deadline be revalidated if it can be demonstrated that the knowledge of the course(s) remains current. Knowledge of coursework may be demonstrated by: (a) passing an examination specifically on the material covered by the course; (b) passing a more advanced course in the same subject area; (c) passing a comprehensive examination in which the student demonstrates substantial knowledge of the content of the course; (d) teaching a comparable course; or (e) publishing scholarly research demonstrating substantial knowledge of the content and fundamental principles of the course.

Each course for which consideration for revalidation is being requested should be justified separately. If the Qualifying Examination is used for the purpose of revalidation, the number of courses to be revalidated by this method should be limited to two in order to avoid compromising the integrity of the Qualifying Examination process.

## 8. Information for International Students

### 8.1. The Office of International Services (OIS)

[OIS](#) is your comprehensive resource for all matters related to international study. OIS offers services including advising on and facilitating compliance with U.S. visa and immigration regulations, assisting with financial matters and planning, and offering ongoing orientation and other educational, cultural, and social programming. Students can find detailed information about [OIS](#) and their services on [their website](#).

Many OIS services and approvals, including OPT and CPT requests and I-20 extensions, are requested through an online system called iStart. When the system asks for contact information for your department or advisor, please use [sicecsiu@indiana.edu](mailto:sicecsiu@indiana.edu).

### 8.2. Test of English Proficiency for Associate Instructor Candidates

Students whose native language is not English and who would like to compete for teaching positions are required to take the [Test of English Proficiency for AI Candidates](#). Students must pass this exam before they can be appointed to engage in the direct instruction of students at IU. If you have questions about the TEPAIC, please check the website and/or contact the CSGSO.

### 8.3. Full-time Status

International students should note that SEVIS regulations are stringent about having a full course load, and that it is essential to check with International Services well in advance of any event that might affect visa status (e.g., dropping a course) to avoid the risk of deportation for being out of status. Check [OIS](#) for links to information on staying in status, to be sure that you are aware of the current policies.

### 8.4. Completion dates for Visa Purposes

International students are considered to have completed their degrees as soon as they have completed the degree requirements, regardless of whether they have filed for the degree. Consequently, it is essential to make sure that post-graduation visa arrangements are in place before completing the requirements. Please contact International Services for details; they are experts on these rules.

### 8.5. Optional Practical Training (OPT)

Optional Practical Training (OPT) is employment related to a student's major field of study prior to or shortly after graduating. The date of graduation is normally the end of the semester in which they take the last courses needed for the degree, regardless of whether the student will receive a grade of Incomplete in one of these courses. Even if the student has an Incomplete that prevents receiving the degree, they should expect the OPT to be processed using the normal completion date for their last courses (the last day of finals). Refer to the OIS website for detailed information regarding OPT. When asked for department or advisor contact information, please use [sicecsiu@indiana.edu](mailto:sicecsiu@indiana.edu).

## 9. Internship and Curricular Practical Training (CPT)

Curricular Practical Training (CPT) is a work authorization that allows students with an F-1 visa to engage in an off-campus academic internship that is an integral part of their academic curriculum. CPT requirements can be found on the Office of International Services website.

All CS Ph.D. students must have approval from their faculty advisor before accepting an internship offer.

### 9.1. About CPT

CPT is work authorization that allows F-1 international students to participate in paid off-campus academic internships during a student's degree program. The work must be integral to the degree program. Approval must be granted prior to completion of the student's academic program and is approved or denied by the Office of International Services (OIS) and the Computer Science Graduate Studies Office (CSGSO).

Employment must not begin until the date authorized in the I-20 issued by OIS. A student must have been in full-time, F-1 status for at least one full academic year to be eligible for CPT.

### 9.2. CPT Application Process

The CPT application begins after you have received an offer(s) from employer(s) and have decided to accept one of them. Then follow the following steps:

1. Review and follow the [SICE Career Services Recruiting Guidelines](#).
2. Accept only one offer from one employer. Withdraw all pending applications, cancel all scheduled interviews, and cease seeking employment or internships elsewhere.
3. Obtain an offer letter listing the following details:
  - Name of Company
  - Physical address – No P.O. box
  - Contact phone number
  - Email of employer/supervisor
  - Your job title
  - A full job description, with job duties listed
  - Start date and end date of employment
  - Total hours you will be working
4. Submit the offer letter to the CS Graduate Studies Office, [sicecsiu@indiana.edu](mailto:sicecsiu@indiana.edu), with the following information:
  - Your full name
  - Your program
  - Student ID number
  - A PDF copy of the offer letter from your employer
  - A description of the nature of the employment and how this employment directly relates to your coursework and program.

5. Wait for CSGSO to review your email, offer letter, and required information. You will need to enroll in an IU course during the CPT period. We will advise you which course to enroll in, depending on your particular circumstances.
6. Upload Offer Letter in iStart. Follow the instructions carefully and upload your offer letter into [iStart](#) for OIS Approval. When OIS approves the offer letter, they will notify you by email with instructions for completing the Academic Advisor Form.
7. Complete the Academic Advisor Form. Indicate Regina Helton as the Academic Advisor (Regina is the point of contact for this process). Use [sicecsiu@indiana.edu](mailto:sicecsiu@indiana.edu) as the email address on the Academic Advisor form (and on any other OIS-related communication).
8. Watch for and complete surveys from Career Services about your internship. These surveys are important because they help IU attract top employers, including helping to find future internships and full-time positions for you.
9. Upon completion of the Internship, provide the CSGSO with an Exit Letter, a formal letter from the employer stating that the terms of employment or internship were satisfactorily completed. For M.S. students, a Summary Report by the student, detailing the internship experience in relation to their program of studies, is also required. This letter is used to assign a grade for the IU course. If an exit letter is not submitted, a grade of Incomplete will be posted. If an Exit Letter is not provided within one year after course registration, the Incompletes automatically turns to F's. This letter (and report) are used to assign a grade for the IU course. The exit letter (and report) should be emailed to the CSGSO ([sicecsiu@indiana.edu](mailto:sicecsiu@indiana.edu)) and the CS Director of Graduate Studies for review. If an exit letter (and report for M.S. students) are not both submitted, a grade of Incomplete will be posted; unless these materials are submitted, the Incomplete grade will automatically turn to an F after 1 year.

### 9.3. CPT Points to Remember

- The approval process cannot be rushed or completed out of order.
- It is important that you give the address [sicecsiu@indiana.edu](mailto:sicecsiu@indiana.edu) on any OIS forms that ask for an advisor or department contact.
- Use [ois@iu.edu](mailto:ois@iu.edu) to contact OIS directly.
- Employment must **not** begin until the date authorized in the I-20 issued by OIS.

## 10. Financial Support

Indiana University and the Department of Computer Science offer a variety of types of financial support to graduate students, including fellowships, research assistantships, associate instructorships, and part-time (hourly) jobs. Applicants for admission into the CS Ph.D. program are automatically considered for financial support. M.S. students are typically not offered support at admission, but most M.S. students (about 80% in recent years) find partial support (typically in the form of part-time work) after they arrive.

### 10.1. Requirements for financial support

Most financial support packages require that the student makes satisfactory progress toward completing a degree of study. The Department's criteria for satisfactory academic progress includes: course credits completed per semester, the nature of these courses, the grades received, and for Ph.D. students, successful completion of the qualifying examination and progress in completing the dissertation research.

In addition to satisfactory progress toward completing the degree, continuation of graduate support depends on: the recipient performing assigned duties satisfactorily, past level of support and total number of semesters of support, the availability of funds to continue the current level of financial assistance, and the needs of the Department for the particular services for which the recipient is qualified to perform. When resources for financial support are limited, and the demand for support exceeds the funds available, a continuation of financial support for an individual student will depend upon merit relative to others requesting aid and the needs of the Department.

The Department attempts to provide financial aid to all continuing Ph.D. students in their second through the fifth year who are making satisfactory progress toward the Ph.D. degree, whose overall performance in the program is strong, and who are able to serve as an Associate Instructor or Research Assistant.

### 10.2. Student Academic Appointments (typically Ph.D. students only)

Student Academic Appointments (SAAs) provide a monthly stipend and a tuition waiver (up to 12 credits in the fall term, 12 credits in the spring, and 6 credits in the summer term). Most Ph.D. students are supported on SAAs; occasionally, M.S. students working on research are also supported as SAAs. An SAA can be in the form of an Associate Instructor (AI) or Research Assistant (RA). All students with an SAA are required to sign an employment contract known as the Application and Agreement for Student Academic Appointee form with the Computer Science Payroll / HR Associate. In addition, the student will need to supply the documentation required for the hiring process.

Students offered an SAA typically have a ten-month appointment and a workload that is a 50% FTE appointment (20 hours per week). Students with a 20 hour per week SAA are required to enroll in 6 credit hours each term on appointment. Failure to comply with enrollment requirements may result in the termination of the SAA contract.

All students with an SAA are required to attend the Student Academic Appointment Orientation offered in the fall term. They are also required to successfully complete two online tutorials: Family Educational Rights and Privacy Act (FERPA) and Data Protection & Privacy. SAA appointees are responsible for following all policies outlined in [IU's Handbook for Student Academic Appointees](#).

#### 10.2.1. SAA Associate Instructorships (typically Ph.D. students only)

An Associate Instructor (AI) assists faculty with the teaching mission of the department. Responsibilities vary depending on the faculty and the course but often include leading discussion sections and labs, grading assignments and exams, holding office hours, and designing course materials. Since AIs share similar teaching duties as faculty, they are required to follow the faculty [Code of Academic Ethics](#). In addition, it is highly



recommended that students utilize campus resources from the [Center for Innovative Teaching and Learning](#) and attend various AI-related workshops and meetings offered by Computer Science.

Note: Students whose native language is not English cannot be AIs until they pass the [Test of English Proficiency for Associate Instructor Candidates](#) (TEPAIC), described above.

### **10.2.2. SAA Research Assistantships (typically Ph.D. students only)**

Research Assistantships are funded by individual faculty members to work on their research projects. As with Associate Instructorships, RA positions include a stipend, tuition remission, and fees for graduate students hired to work on funded research projects. The availability of research assistantships varies each year among faculty. The awards are not made by Computer Science, but directly with the funding faculty. Faculty members generally select research assistants from the graduate student body and qualified applicants. Research assistants are often selected to work on a specific research project or projects for which the faculty member has funding. Often, but not always, the work is related to the thesis of the student. Renewal of research assistantships is based on satisfactory performance and availability of funds.

Students with Research Assistantships must secure their RA supervisor's advance written permission to take any outside courses in addition to the required 9 credits of CS courses contributing towards their degrees. This approval must be provided to the CSGSO prior to registration.

### **10.2.3. Student Academic Stipends and Fee Remissions (typically Ph.D. students only)**

The stipends attached to AI and RA appointments are considered graduate student financial support and compensation for assigned academic duties, and as such are taxable income. It is our understanding that fee remissions and fee scholarships are not taxable. Summer fee remission and fee scholarship awards are restricted to a maximum of six hours. Fee remissions and fee scholarships are restricted to a maximum of 30 hours in any academic year (fall, spring, and summer term).

Students who have accumulated 90 credit hours or more and who have completed all course requirements are not eligible for fee remissions but must still meet the registration requirements mentioned above (e.g., at least 6 credits for a 20-hour/week SAA). Such students may enroll in CSCI-G901 (Advanced Research), which carries a value of 6 credit hours, and has a flat rate fee of \$150 and no mandatory fees.

### **10.2.4. Summer Appointments (typically Ph.D. students only)**

A limited number of summer AI appointments are available and are allocated on the basis of scholarly, research, and/or teaching performance. Individual faculty may also offer Research Assistantships during the summer to work on their funded research projects.

## **10.3. Part-time (hourly) positions (typically M.S. students only)**

Part-time Associate Instructor positions are sometimes available, typically requiring up to 10 hours per week. Most part-time AI positions are offered to M.S. students. Unlike SAA appointments, these positions do not receive tuition waivers and students must record their time in the university's human resources system. Hourly Research Assistantships may also be available; these are arranged directly with a faculty member for work on a specific research project.

## **10.4. University Graduate School Fellowships**

We encourage students to become familiar with other funding opportunities available at Indiana University. For an updated listing of awards and deadline, visit the [IU Grad Grants](#) Center website.