GRADUATE STUDENT HANDBOOK

Fall 2024 Edition
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This handbook describes the MS and PhD programs in the Computer Science Department. Information on graduate faculty and graduate courses are available on our web site.

The web site for Stony Brook students is *http://www.cs.stonybrook.edu*

The web site for SUNY Korea students is *http://www.sunykorea.ac.kr/cs/*

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1 Introduction

This handbook describes the requirements for admission to the graduate programs of the Department of Computer Science, the requirements to earn a graduate degree, and all associated policies and procedures. The handbook also contains general information about the MS and PhD programs.

Students in the Computer Science graduate programs are responsible for understanding the material in this handbook, the Academic Regulations, Procedures and Degree Requirements in the Graduate Bulletin, and the Graduate School Policy Manuals.

The latest Graduate Bulletin is available on the Graduate School web site: *http://www.grad.stonybrook.edu*. Exceptions to the requirements to accommodate special circumstances must be approved by the student's academic advisor and the Graduate Program Director. Such exceptions must be documented and included in the student's academic file.

This handbook is applicable to the Computer Science graduate students in both

- the Stony Brook campus
  (also referred to as SBU or Stony Brook University in the rest of this handbook), and
- the SUNY Korea campus
  (also referred to as SUNYK or SUNY Korea in the rest of this handbook).

Specific information and requirements applicable to students of only one of these campuses are clearly marked, in **red** for SBU students and **blue** for SUNYK students. Additionally, Section 8 contains material applicable only to SBU students, and Section 9 contains material applicable only to SUNY Korea students.

The graduation requirements for a student are as stated in the handbook that was in effect at the time of entry to the program. If the requirements change subsequently, a student *may* use, if they so choose, the latest requirements in effect at the time they apply for graduation. Whichever set of requirements are chosen shall be applied in whole; for instance, it will not be possible to apply a part of requirements in effect the time of entry and another part in affect at the time of graduation. In general, the student should keep abreast of the latest version of the Graduate Student Handbook, which is published on the Departmental Web site, and also the Graduate School Bulletin and Policy Manuals available on the Graduate School's Web site.

Students are expected to complete their degree requirements as expeditiously as possible. *Students must graduate once the minimum degree requirements are satisfied. Once graduation requirements are met, students cannot continue in the program by taking additional courses or for any other reason.*

2 Goals of the Programs

The Department of Computer Science offers MS and PhD degrees in Computer Science. The MS program is designed primarily to train students with professional goals in business, industry, or government, requiring detailed knowledge of computer science concepts and applications. Students are given the experience of working on large-scale software or hardware development projects involving analysis, design, evaluation, and implementation.

The PhD program is for students interested in obtaining academic or research positions in colleges and universities or in government or industrial research laboratories. The program gives students a rigorous and thorough knowledge of a broad range of theoretical and practical research subject areas, and develops the ability to recognize and pursue significant research in computer science. The first two years of graduate study are devoted to coursework. By the end of the second year, the research phase of a student's graduate career should be underway, with participation in advanced study and preliminary research work. The final years of graduate study are devoted to dissertation research. Upon entrance to the program, each student is assigned an academic advisor. Each PhD student should seek a faculty member to serve as a research or dissertation

advisor within the first two semesters of the program. The choice may be changed. However, each change of advisor may delay a student's progress. A research advisor is invaluable when it comes to issues such as financial support and progress through various examinations. Most faculty members have research group meetings and seminars through which new students can become acquainted with their research. Please refer to Section 5.1 for the specific rules on choosing or changing an advisor.

Students who are progressing satisfactorily toward the PhD can earn an MS degree as well, as described in Section 5.11. Students enrolled in the MS program can apply for admission to the PhD program as described in Section 4.9.

3 Requirements for Admission to Graduate Study

Admission to the MS and PhD programs are handled separately by the departmental Admissions Committee. The requirements for admission to graduate study in computer science include:

A. Bachelor Degree: A bachelor's degree, usually in a science, mathematics, or engineering discipline is required. The transcript should show a grade average of at least B (i.e., 3.0/4.0) in
(i) all undergraduate course work, and
(ii) in the science, mathematics, and engineering courses.

B. Computer Science Background: For the MS program, students with CS or related degrees are preferred. Applicants with exceptional promise who lack CS preparation in one or more core areas may be admitted, but will be required to take additional CS courses as specified in their offer letter. For the PhD program, we mainly consider an applicant's potential for first-class research, and expect applicants to have sufficient academic preparation and strength to succeed in PhD qualifiers.

C. GRE Examination. All international applicants to the MS program must submit Graduate Record Examination (GRE) scores. GRE is optional for all PhD applicants and domestic MS applicants.

D. English Proficiency Requirements. All students who are not native or primary speakers of English must demonstrate proficiency in English to be admitted to the University's Graduate School. This is enforced primarily by requiring scores above a specific threshold in standardized English proficiency tests such as TOEFL and IELTS. At application time, a questionnaire to evaluate the English language background of applicants is used to determine whether to waive the requirement for standardized test scores. See the English Proficiency Requirements section of the Graduate Bulletin for further details.

E. Accepted Application. Acceptance by the Computer Science Department and the Graduate School.

Students of exceptional promise with non-standard background or who lack certain requirements may be considered for admission to the program on a conditional or provisional basis. In such cases, the student will be informed of the requirements that must be satisfied to move out of the provisional status. Note that this is not typical or routine. Students admitted without the minimal background in Computer Science can expect to do remedial classes and hence can take longer to graduate.

3.1 Transfers into the Graduate Program

Students pursuing or completing graduate degree programs in other universities must submit a complete graduate application. If admitted, a student *may be* able to transfer graduate credits in computer science from another university subject to the following rules:

- Only credits for graduate courses *that have not already been used to obtain another graduate degree* can be transferred. Graduate courses co-scheduled with undergraduate courses, or those that were a part of another completed degree cannot be transferred.
- Only courses with a grade of B or better (or equivalent) can be transferred.
- The Graduate School permits transferring up to 12 credits.
- To be counted towards graduation, the courses must be evaluated and approved by a CS faculty member who teaches the corresponding graduate course on a regular basis. The evaluation must establish an equivalence between a course being transferred from another institution to a regular Computer Science course in SBU or SUNY Korea that is accepted as part of the graduation requirements. If a transferred course has no equivalent course, it may count only towards overall credit requirements. Students wishing to transfer courses must note that such approval is not automatic or guaranteed.

Students from other programs within SBU wishing to transfer to CS graduate programs should have completed at least one semester of graduate coursework at SBU, with excellent performance in multiple CSE courses, and have a strong recommendation from a CS faculty member. Students meeting these criteria can contact the CS graduate admissions to determine additional materials needed for a complete evaluation.

4 MS Degree Requirements

For successful completion of the MS program, students must fulfill the *breadth*, *credit*, *project*, and *graduate course* requirements.

1. *Credit Requirement:* Complete *a minimum of 31 graduate credits* of CSE courses with a cumulative GPA of at least 3.0.

   > *All individual courses counted in this pool of 31 credits must be completed with a grade of C or better for letter-graded courses, or S for S/U-graded courses.*

   No credits are counted for the following PhD-only courses: CSE 600, 696, 697, 699, 700, and 701. Credits from any other CSE course do count towards graduation. Relevant graduate courses in other departments may be used towards the 31 credits *only with prior approval by the Graduate Program Director*.

2. *Breadth Requirement:* Take graduate courses covering three *breadth areas*. See Section 4.1 for details.

3. *Project Requirement:* Choose one of the following three options:

   Basic Project: Completion of a project-oriented course (CSE 522). See Section 4.2 for details.

   Advanced Project: A more involved, two-semester long project (CSE 523 + CSE 524) under the guidance of a faculty advisor. See Section 4.3 for details.

   Thesis: Research project under the guidance of a faculty advisor (typically two or three semesters of CSE 599), completed with the submission and defense of a dissertation. See Section 4.4 for details.

4. *Graduate Course Requirement:* Complete a minimum number of CS *graduate lecture courses*, depending on the selected project option:

8 graduate lecture courses + CSE 522 (Basic Project).

7 graduate lecture courses + CSE 523 + CSE 524 (Advanced Project).

6 graduate lecture courses + at least 6 credits of CSE 599 (Thesis).

Graduate lecture courses are:

- 500-level courses *except* CSE 500, 522, 523, 524, 580–589, 593, 596–599.
- CSE 601–638.

For the purposes of this requirement, *At most one graduate lecture course may be replaced with 3 credits of CSE 698 (Teaching Practicum). The 3 credits can be accumulated over multiple semesters.*[1]

Important: For SUNY Korea students, CSE 516, CSE 517 and CSE 595 are **not** considered as graduate lecture courses.

4.1 MS Breadth Requirement

The MS breadth requirement is designed to ensure that every MS student obtains a broad background in a number of different areas of computer science.

Students must satisfy the MS breadth requirement by the time of graduation regardless of the chosen project option. The requirement is that students must complete, *with a grade of C or better*, courses covering all 3 of the following areas:

Theory

CSE 512: Machine Learning
CSE 526: Principles Programming Languages
CSE 540: Theory of Computation
CSE 541: Logic in Computer Science
CSE 547: Discrete Mathematics
CSE 548: Analysis of Algorithms
CSE 549: Computational Biology

Systems

CSE 502: Computer Architecture
CSE 504: Compiler Design
CSE 506: Operating Systems
CSE 508: Network Security
CSE 509: Computer System Security
CSE 532: Theory of Database Systems
CSE 534: Fundamentals of Computer Networks
CSE 535: Distributed Systems

Information and Intelligent Systems

CSE 505: Computing with Logic
CSE 519: Data Science Fundamentals

[1] One graduate credit in a lecture course is typically considered as four hours of effort per week. The same level of effort level is assumed for CSE 698 as well (e.g., 3 credits require 12 hours per week).

CSE 525: Introduction to Robotics
CSE 527: Introduction to Computer Vision
CSE 528: Computer Graphics
CSE 537: Artificial Intelligence
CSE 538: Natural Language Processing
CSE 564: Visualization

Students may take more courses from the list of breadth courses, in any sequence. Some of these courses may have separate PhD and MS sections. MS students are expected to enroll in the MS section.

4.2 Basic Project Option

Students in this option must register for CSE 522 Basic Project in Computer Science. This course designation serves as a cover to a regular CS graduate course that has a substantial project. The list of CSE 522 courses is posted on the department's web site. Students will attend one such project-heavy course (e.g., CSE 506 Operating Systems) along with the students who would ordinarily register for that course. When registering for CSE 522, students must register for the section corresponding to the faculty member teaching that course (e.g., CSE 506 in this example).

> Students *must not register for both* the covered course (e.g., CSE 506 in the above example) as well as CSE 522, in the same or different semesters. If the student does so, only one of these will be counted as part of the degree requirement.

The syllabus for the course will specify additional project work required of the students registered under the CSE 522 designator. Students registering for CSE 522 must fill up an approval form (available via the departmental web site) and get approval from the instructor teaching the course. The approval form would be a part of the student's file. The student will not receive any credit for graduation for CSE 522 without such an approval on file.

Students intending to follow the basic project option must register under the CSE 522 designator. The CSE 522 designator *cannot be applied retroactively* after a course is completed.

For the purpose of satisfying the MS breadth requirement, CSE 522 is treated as equivalent to the covered course. For example, if a student attends CSE 506 Operating Systems using the CSE 522 designator, the student will be considered to have satisfied the breadth requirement in the Systems area.

4.3 Advanced Project Option

Students in this option are required to take the two-semester long sequence "Advanced Project in Computer Science I and II" (CSE 523 and CSE 524, respectively) under the supervision of a CS faculty member. Students must register for CSE 523/524 under the section of this faculty member. Registration in CSE 523/524 is by permission only. To obtain this permission, students should complete an Advanced Project Approval Form signed by the faculty advisor.

> CSE 523 and CSE 524 must involve a substantial two-semester long project *under the same advisor*, not two smaller projects with multiple advisors. CSE 523 and CSE 524 must be taken in two different semesters (not necessarily consecutive) and in that sequence.

Students must exercise care in choosing a project and advisor. Sometimes, a student may be unwilling or unable to continue with the same advisor for CSE 524 after completing CSE 523. In such cases, CSE 523 must be done a second time with a new advisor.

4.4 Thesis Option

In this option students perform research that results in a written report or thesis. When performing research, students must accumulate a total of 6 to 9 credits of CSE 599 (often registering for 3 credits per semester).

The thesis must be approved by a committee consisting of at least three CS faculty members, including the thesis advisor. The advisor(s) cannot chair the committee. At least two members must be core CS faculty. The committee must be approved by the Graduate Program. At the discretion of the committee, students may be required to defend the thesis by presenting a departmental seminar on the topic of their thesis. The thesis approval and defense must be done before the deadline set by the Graduate School for the student's graduating semester. Regardless of a defense, the thesis must be prepared and submitted as per the Graduate School's requirements; see *http://grad.stonybrook.edu/academics/thesis_dissertation_guidelines.php*.

4.5 Choosing an MS Option

To choose an option, students should carefully consider their existing strengths and future goals. Students with a solid undergraduate background in Computer Science and/or good industry experience should normally choose the Advanced Project or Thesis options. These provide the opportunity for more in-depth study in a direction of the student's interest, and the opportunity to work closely with a faculty member and their research group. The Basic Project option is meant for students who prefer to take a broad range of basic CS courses, instead of a more focused project or research. This option is also appropriate for students who lack background on core aspects of Computer Science due to the specific undergraduate preparation they have. In the Basic Project option, the minimum project experience needed for graduation is one project-heavy course.

Students opting for the Advanced Project or Thesis options must select an advisor by the beginning of the second semester in the program. The role of the advisor is to guide the student through their MS studies, formulate a project or a thesis topic, and supervise the student towards the completion of the assigned task. Students in the Basic Project option do not have a faculty advisor, and the Graduate Academic Advisor or the Graduate Program Director serves as their default advisor.

Students do not need to declare in advance the option they choose, and thus students can switch between options. Still, planning ahead and sticking to one option would be in the best interest of the student. Otherwise, a student may end up taking more courses than really necessary for the degree. In any case, **at the time of graduation, a student must clearly fall into one of the designated options.**

Students may switch from one option to another, as follows:

1. Student who switch between Advanced Project and Thesis options *with the same advisor* may be allowed to count their project courses (CSE 523/524) interchangeably with thesis research (CSE 599) *only if* approved by both the advisor and the Graduate Program Director.

2. In any other case, e.g., a student changing advisors, or changing to/from the basic project option, the student has to start from scratch. Credits earned from the previous option count for graduation.

3. Either way, students have to satisfy the graduation requirements of the new option (in terms of the number of lecture courses, etc.).

4.6 MS Concentration in Data Science and Engineering (MSDSE)

MS students can choose to add a concentration to their MS degree. To qualify for the Data Science and Engineering Concentration, MS students must take at least 4 of the following courses:

1. CSE 512: Machine Learning
2. CSE 519: Data Science Fundamentals
3. CSE 537: Artificial Intelligence
4. CSE 544: Probability and Statistics for Data Scientists
5. CSE 545: Big Data Analytics
6. CSE 548: Analysis of Algorithms
7. CSE 564: Visualization

No other courses will be accepted for the 4-course requirement beyond the ones listed above.

In addition, students must complete an advanced project sequence (523/524 or equivalent) or an MS thesis (599 or equivalent). Where applicable, the courses taken toward the Data Science Concentration can be taken as part of the MS breadth requirement.

MS CS Students satisfying the above requirements will automatically have the concentration designation added to their transcript upon graduation. No action beyond fulfilling the requirements is necessary.

4.7 Independent Study

Students who wish to conduct research or participate in a project in connection with, or in addition to and separately from, the options described above, can use CSE 593 Independent Study. This requires advance concurrence of a faculty member supervising the study. Students can then register for the section of CSE 593 that corresponds to that faculty member. It is generally recommended that students complete a semester of Independent Study with a faculty member before starting their Advanced Project or Thesis.

4.8 MS Proficiency Requirements

MS applicants with a non-CS background may be admitted to the program with an *additional* requirement that they acquire proficiency in specific areas. The MS admission letter will spell out these areas explicitly. Such students must meet with the Graduate Program Director or Graduate Academic Advisor in their first semester and come up with a formal plan (called "proficiency plan") for fulfilling the required proficiencies.

Proficiency requirements can be fulfilled, consistent with the proficiency plan, by taking a bridge or proficiency course (CSE 580–589) in the relevant area. Among these are "bridge courses" (CSE 581–584), which are graduate courses specially designed to fill in foundational material in an accelerated fashion. CSE 587 (Proficiency Requirement in Computer Science) is a special case: it is co-scheduled with an undergraduate course in the same area. Students registering in CSE 587 will attend the lectures of the corresponding undergraduate course, and fulfill the requirements specified by the CSE 587 instructor.

Bridge and proficiency courses are **not** counted towards the **lecture** course requirement. However, credits for CSE 580–589 will count towards the student's graduation credit requirement and full-time status requirement. Bridge courses (CSE 581–584) and CSE 587 can be taken only in accordance with the proficiency plan approved by the Graduate Program Director.

Note the following points for the use of CSE 587:

- For CSE 587, the syllabus of the undergraduate course and/its instructor may specify *additional work* that graduate students must do in order to pass the course. Graduate students taking an undergraduate course under the CSE 587 number will be graded separately from the undergraduate students.
- A student may not use CSE 587 to take an undergraduate course when he or she has previously taken an equivalent undergraduate/graduate course (at Stony Brook or elsewhere).
- While students are taking CSE 587 to satisfy one or more proficiencies, students may *not* concurrently register for the graduate course equivalents of those undergraduate courses. For example, if you have an "algorithms" proficiency, you will have to take CSE 373 first (the undergraduate algorithms course, as CSE 587), before you're allowed to take the graduate algorithms course, CSE 548.

A grade of **B** or better is needed in CSE 587 to satisfy a proficiency requirement. Proficiency requirements can be satisfied with a grade of **C** or better in bridge courses CSE 581–584.

Under extraordinary circumstances, the Graduate Program Director may permit a student to take a *graduate course* to fulfill a proficiency requirement. Permission to use a graduate course will have to be approved as a part of the overall proficiency plan. A grade of **C** or better is needed in an approved graduate course to satisfy a proficiency requirement. An approved graduate course will be treated as a regular lecture course for the purposes of MS course and credit requirements.

4.9 Switching from the MS to the PhD Program

MS students who wish to transfer to the PhD program must contact the Graduate Program Director. There is no automatic transfer mechanism. Students should have excelled in CSE courses, and have strong recommendations from one or more CS faculty members. Preferably, students should have (i) passed at least 2 PhD qualifier courses before the application, and (ii) identified a faculty member who is willing to advise them for PhD research. Students will be considered for admission to the PhD program following the normal protocols of the Computer Science graduate admissions committee. Once admitted to the PhD program, courses taken in the MS program can be used for satisfying requirements for the PhD program.

5 Requirements for the PhD Degree

5.1 Dissertation Advisor

A student in the PhD program must have a Computer Science faculty member serve as their dissertation advisor by the end of their *second* semester in the program; the adviser must be a department's faculty member. The role of the *dissertation advisor* is to guide the student through the PhD studies, help with selection of a research topic, and teach the art of doing independent and significant research. Students are encouraged to contact individual faculty members to discuss their research interests.

The Graduate Program Coordinator must be informed upon selection of an advisor. The Coordinator must be informed of any changes to the advisor as well, by submission of a new form. The student is expected to participate in research activities of the advisor's group and at the end of each semester (including summers, if the student is expected to work during summer semesters) the student will be evaluated by the advisor. Two unsatisfactory evaluations in a row or three unsatisfactory evaluations in total will result in the dismissal from the program.

5.2 PhD Qualifier

The purpose of PhD qualifiers is to ensure that students demonstrate mastery in a broad selection of topics in major areas of Computer Science. To meet the qualifier requirement, PhD students must pass a total of *five*

graduate courses with a grade of ***A–*** *or better*, with the following conditions:

1. *A total of at least* ***three*** *courses* from the list below, with one from each of the following **three** areas.

   Theory
   - CSE 512: Machine Learning
   - CSE 526: Principles Programming Languages
   - CSE 540: Theory of Computation
   - CSE 541: Logic in Computer Science
   - CSE 547: Discrete Mathematics
   - CSE 548: Analysis of Algorithms
   - CSE 549: Computational Biology

   Systems
   - CSE 502: Computer Architecture
   - CSE 504: Compiler Design
   - CSE 506: Operating Systems
   - CSE 508: Network Security
   - CSE 509: Computer System Security
   - CSE 532: Theory of Database Systems
   - CSE 534: Fundamentals of Computer Networks
   - CSE 535: Distributed Systems

   Information and Intelligent Systems
   - CSE 505: Computing with Logic
   - CSE 519: Data Science Fundamentals
   - CSE 525: Introduction to Robotics
   - CSE 527: Introduction to Computer Vision
   - CSE 528: Computer Graphics
   - CSE 537: Artificial Intelligence
   - CSE 538: Natural Language Processing
   - CSE 564: Visualization

2. At most **two** graduate courses from:

   (a) Any 5xx course ***except*** CSE 500, 522, 523, 524, 580–599.

   (b) Any *advanced* graduate course from CSE 601–638.

   Important: For SUNY Korea students, CSE 516, CSE 517 and CSE 595 are **not** considered as graduate lecture courses.

All qualifier courses must be completed within **two years** after joining the program as a full-time PhD student. No course substitutions, exchanges, or pleas for better grades will be accepted.

We recommend students take at least two qualifier courses per semester because most graduate courses are offered only once a year. Note that the above requirements state the *bare minimum* number of courses to qualify. Graduate courses offer an incredible opportunity to learn in-depth about a specific area in a structured manner. We encourage students to take as many graduate-level courses as possible before advancing to candidacy (see Section 5.5). We also recommend that students complete the qualifier requirement as early as possible so that they can take other graduate courses without additional grade pressure.

5.3 Course Requirements

By the time of graduation, students are required to accumulate at least 20 credits of regular lecture courses, internships, special topics courses, or seminars. At most 5 credits of seminars and internship can be included in the 20 credits required for graduation. Credits from the following courses are **not** counted towards the 20 needed: generic courses, such as CSE 593, CSE 600, CSE 698, and CSE 699; and bridge courses covering pre-requisite material for graduate courses (CSE 580–589). Only courses completed with grades of C or better (for letter-graded courses), P/S (for PNC-graded courses), or S (for S/U-graded courses) will count towards this requirement. In addition, the following requirements should be noted:

- *MS-specific courses*. Students in the PhD program may *not enroll* in CSE 522, CSE 523/524 or CSE 599. These courses are specific to the MS program.
- *On-going research seminar*. The student must register and complete two semesters of CSE 600.
  - Stony Brook University students must complete them in their first year in the PhD program.
  - SUNY Korea students must complete them in their first two years in the PhD program.

  Credits earned in this course cannot be used towards the 20 credits required for the PhD program.
- *Dissertation Research*. The course for dissertation research is undertaken *only* by PhD students who have been advanced to candidacy (see Section 5.5). Students should register for CSE 699 for dissertation research, except under the following conditions:
  - Stony Brook University students performing research outside New York State should register for CSE 700.
  - Stony Brook University students performing research outside the United States should register for CSE 701.
  - SUNY Korea students performing research outside Korea should register for CSE 701.

  Prior to the advancement, students conduct research and participate in projects by taking CSE 593: Independent Study.
- *Teaching requirement*. University policy requires that all doctoral students participate in an appropriately structured teaching practicum. This requirement can be satisfied by taking CSE 698 in conjunction with a teaching assistantship (TA) in the first year.

Some PhD students might also be advised by the Graduate Program Director to take courses covering undergraduate-level material that is prerequisite to other graduate courses, as part of their preparation for the PhD qualifier and/or proficiency requirements. Such courses include the "bridge" courses (CSE 580–589), including CSE 587, Proficiency Requirement in Computer Science. However, these courses are considered preparatory and are not counted towards the PhD course requirements. See Section 4.8 for information on bridge and proficiency courses. Note that registration in bridge and proficiency courses is only with permission of the Graduate Program Director.

5.4 Research Proficiency Examination (RPE)

The purpose of the Research Proficiency Examination is to ascertain a student's preparation to undertake a significant original research investigation. Students must pass the RPE within two years of joining the program as a full-time PhD students. The student's research proficiency will be evaluated by an RPE committee.

RPE Committee. The RPE committee must be formed by the end of the third semester in the PhD program. It should include the:

- dissertation advisor(s), at least one of whom must be a core/affiliate faculty in the CS department
- committee chairperson, a core/affiliate faculty member in the CS department, distinct from the dissertation advisor(s)
- an additional core/affiliate CS faculty member

At least two members of the committee must be core CS faculty. The committee must be approved by the Graduate Program Director.

RPE Report. The student must submit a report, written in the form of a conference paper or technical report, which critically evaluates and integrates the current state of research relevant to a chosen problem and presents the student's progress in solving the problem. Reports based on previously published or submitted papers, or on papers in progress, are acceptable provided that they satisfy the aforesaid requirements.

Oral Presentation. The student must give an oral presentation open to the Computer Science department, describing the work, which will be followed by a session where the RPE committee will ask questions. The oral presentation should be about 1 hour long. The report should be submitted to the committee at least one week before the presentation.

Deadlines. The student should contact the Graduate Program Coordinator for approval of the the RPE committee at least **two weeks prior** to the examination, and receive an explicit approval of the committee. The student should inform the Graduate Program Coordinator of the date of the RPE at least **one week prior** to the exam. Each aspect of the RPE (written report, oral presentation, responses to questions) will be separately graded by each member of the Committee using special forms provided for this purpose.

Evaluation and Outcomes. The Committee's decision can be one of the following: *pass, retake, fail*. A student who receives a grade of *fail* will be dismissed from the PhD program. A student who receives a grade of *retake* must retake the examination within the timeline recommended by the committee and approved by the Graduate Program Director. If, on retaking the examination, the student does not pass, the student will be dismissed from the PhD program. A student needs a grade of *pass* to fulfill the research proficiency requirement.

Failure to complete the qualifier requirements and research proficiency examination within the specified time frame is considered evidence of unsatisfactory progress. In particular, students who have not met these requirements within 4 semesters of their admission to the PhD program will lose financial support and may be dismissed from the PhD program.

5.5 Advancement to Candidacy

A student advances to candidacy after meeting the qualifier requirements, the course requirements, and passing the RPE. This status, also called *G5*, is conferred by the Dean of the Graduate School upon recommendation of the Department.

Students must advance to candidacy *at least one year before defending their dissertations.* In exceptional circumstances, the Graduate Program Director may submit a written petition for a waiver of this requirement to the Dean of the Graduate School. A student who has advanced to candidacy would normally register for 9 credits of CSE 699, CSE 700, or CSE 701, as appropriate. Effective Spring 2023, candidates may enroll

in one graduate (e.g., lecture) course, without requiring explicit permission from the graduate program. Enrollment in non-CS courses will continue to require prior approval from the graduate program.

5.6 Research Assessment Meetings

All PhD students who have not yet met qualifier/course/RPE requirements will be reviewed each semester, in semi-annual *Research Assessment Meetings*. This review is conducted by the entire faculty, which determines the status of each student. (Some students may be reviewed additionally during a summer session.) This review is comprehensive, and includes at least the following items:

- Qualifier courses taken and passed with A− or better.
- All other courses taken, grades received, and GPA.
- Performance as Teaching Assistant.
- Research productivity: publications, talks, software, systems, etc.
- Faculty input, especially from advisors.
- Student's own input.
- Cumulative history of the student's progress.

The outcome of the review will be a formal letter given to the student and placed in the student's file. A student can be placed in one of the following categories:

In Good Standing: There are three categories within which a student in good standing may fall:

OK: The student meets the milestones for timely progress.

Concern: The student is close to meeting the milestones for timely progress, and, is reasonably expected to meet the milestones in the following semester.

Warning: The student is missing some important milestones for timely progress, and, without significant changes, is in danger of being not in good standing in the following semester.

Not in Good Standing: The student had not performed sufficiently well in the previous semester. The student may be placed under probation for a semester, may lose RA/GA/TA funding, may lose an advisor, or may even be dismissed from the program immediately. Being under probation for two consecutive semesters will likely lead to dismissal from the program.

In addition to the outcome, the letter may also make specific recommendations, as to what will be expected in the following semester (e.g., pass 2 more qualifier courses, pass the RPE, etc.).

5.7 Thesis Proposal ("Prelim" exam)

After advancing to candidacy, and as a part of undertaking dissertation research, the student must complete a thesis proposal, also known as a "Prelim exam." The thesis proposal consists of a written report and an oral presentation, and is assessed by a Thesis Proposal Committee. The purpose of the thesis proposal is to assess a student's progress towards the PhD thesis.

The student must complete all aspects of the thesis proposal requirement within two years of advancing to candidacy. Failure to fulfill this requirement by that time without a formal extension may be considered evidence of unsatisfactory progress towards the PhD degree.

Thesis Proposal Committee. The thesis proposal committee should consist of:

- dissertation advisor(s), at least one of whom must be a core/affiliate faculty in the CS department
- committee chairperson, a core/affiliate faculty member in the CS department, distinct from the dissertation advisor(s)
- an additional core/affiliate CS faculty member

At least two members of the committee should be CS core faculty. At least one member must have no conflict of interest with the student (e.g., intellectual, personal, financial). Additional members, including members external to the CS department or the University, may be added to the committee. Typically, members of the RPE committee proceed to serve on the thesis proposal committee.

The student should contact the Graduate Program Coordinator at least **two weeks prior** to the date of the oral presentation for approval of the committee, and obtain explicit approval.

Thesis Proposal Report. A written thesis proposal must be submitted to the student's Thesis Proposal Committee at least one week before the oral presentation.

The major requirements of the thesis proposal are as follows:

1. The student must be thoroughly familiar with the background and current status of the intended research area.
2. The student must have clear and well-defined plans for pursuing the research objectives.
3. The student must offer evidence of progress in achieving these objectives.

The student must be prepared to justify the effort to be expended in the research in terms of the value of the results expected, and to justify the extent and challenge of that research as evidence of research competence at the PhD level.

Oral Presentation of Thesis Proposal. The student must present the thesis proposal as a seminar presentation to the thesis proposal committee. The student should inform the Graduate Program Coordinator of the date of the thesis proposal oral presentation at least **one week** before the date of the presentation.

The Thesis Proposal Committee, at its discretion, may make the oral proposal presentation open to all faculty and students in the Computer Science Department, or the university community. The committee may question the student on any topics that they feel are relevant to the student's objectives and career preparation. The student will be expected to show complete familiarity with the current and past literature of this area. If a thesis proposal is lacking in any essential aspect, the committee may direct the student to redo the proposal in whole or in part. The findings of the committee will be communicated to the student as soon as possible.

Timeline. Thesis proposal must be successfully completed at **least 6 months before** the student's PhD defense. Any exceptions must be requested explicitly with detailed justification by the student, supported by the thesis proposal committee, and approved by the Graduate Program Director.

5.8 PhD Dissertation and Defense

An important requirement of the PhD program is the completion of a dissertation which must be an original scholarly investigation. The dissertation shall represent a significant contribution to the scientific literature, and its quality shall be compatible with the publication standards of appropriate reputable scholarly journals.

Dissertation Examination Committee. The dissertation examination committee should consist of:

- dissertation advisor(s), at least one of whom must be a core/affiliate faculty in the CS department
- committee chairperson, a core/affiliate faculty member in the CS department, distinct from the dissertation advisor(s)
- an additional core/affiliate CS faculty member
- a member external to the CS department or University

At least two members of the committee should be CS core faculty. At least one member must have no conflict of interest with the student (e.g., intellectual, personal, financial).

Formally, the committee is appointed by the Dean of the Graduate School on the recommendation of the Graduate Program Director. The committee appointment form must be filled out with the Graduate Program Coordinator at least **five weeks prior** to the defense.

Dissertation Defense. The dissertation must be orally defended before the Dissertation Examination Committee, and the candidate must obtain approval of the dissertation from this committee. The oral defense of the dissertation is open to all members of the university community. The final draft of the dissertation must be submitted to the committee no later than three weeks prior to the date of the defense.

Four weeks before the defense, the student must fill out the Doctoral Defense Announcement Form (available from the graduate school's website *https://www.grad.stonybrook.edu*). This form must be sent to the Graduate Program Coordinator who submits it to the Graduate School to make a public announcement of the event.

Dissertation Submission. Upon successful completion of the dissertation defense, a final copy of the dissertation must be submitted to the Graduate School. The Graduate School posts deadlines for dissertation submission for each semester. The deadline for the dissertation submission is the posted date, or 90 days after the date of the defense, whichever is later. The Graduate School may ask for corrections to the dissertation. It is the candidate's responsibility to be responsive and make the necessary corrections.

5.9 Satisfactory Progress and Time Limit

A student who does not meet the target dates for the PhD Qualifier, the Research Proficiency Examination, and the Thesis Proposal, or who does not make satisfactory progress towards completing thesis research may lose financial support. The candidate must satisfy all requirements for the PhD degree within *seven years after completing 24 credit hours of graduate courses*. In rare instances, the Dean of the Graduate School will entertain a petition to extend this time limit, provided it bears the endorsement of the Department's Graduate Program Director. A petition for extension must be submitted *before* the time limit has been exceeded. The Dean or the Department may require evidence that the student is still properly prepared for the completion of work.

5.10 Part-Time Students

Students admitted into the PhD program for part-time study are bound by all the rules set out in this section. In particular, part-time students should adhere to the schedule for the Qualifying Examination, Research Proficiency Examination, and Thesis Proposal, as explained in Sections 5.2, 5.4, and 5.7, unless a different schedule has been approved in writing by the Graduate Director.

5.11 Obtaining an MS Degree on the Way to PhD

A PhD student who has been engaged in at least one year of full-time research after completing the qualifier, course, and RPE requirements, and, in addition, meets the requirements for an MS degree can apply for the MS degree while remaining in the PhD program.

Teaching Practicum (CSE 698) taken during PhD *will not count* towards the MS program. Credits for dissertation research (CSE 699/700/701) and/or CSE 593 (Independent study) can be counted as those equivalent to MS Thesis Research (CSE 599). Together with the RPE, this will be considered to satisfy the Thesis requirement in the Thesis Option of the MS program. The remaining courses/credits required for the MS degree must be satisfied based on graduate courses in Computer Science, subject to the restrictions stated in Section 4.

MS degrees on the way to PhD are awarded to PhD students in good standing and who are making satisfactory progress towards their PhD dissertation research, and are expected to complete the PhD program. The student's dissertation advisor must attest to this via a letter.

5.12 Typical PhD Timeline

By the End of Year 1: Choose a Dissertation Advisor.

Complete the Advisor Selection form and submit to the Graduate Program Coordinator.

By the End of Year 2: Complete Qualifier and RPE requirements.

For RPE:

- Submit the RPE committee for approval to the Graduate Program Coordinator at least two weeks before the oral presentation.
- Inform the Graduate Program Coordinator of the date of RPE presentation, at least one week prior to the examination.
- Submit the written RPE report to RPE committee at least one week before the oral presentation.

By the End of Year 4: Complete Thesis Proposal requirements.

- Submit the Thesis Proposal committee for approval to the Graduate Program Coordinator at least two weeks before the oral presentation.
- Inform the Graduate Program Coordinator of the date of Thesis Proposal presentation, at least one week prior to the examination.
- Submit the written proposal report to Committee at least one week before the oral presentation.

By the End of Year 5: Submit and Defend PhD Dissertation.

- In the semester of graduation, apply for graduation.
- If graduating in Fall/Spring, register for at least 1 credit; if graduating in summer, register for 0 credits of CSE 800.
- Submit the Dissertation Examination Committee to the Graduate Program Coordinator (for approval by the Graduate School) *at least 5 weeks* before the planned date of defense.
- Submit the Doctoral Defense Announcement form *at least 4 weeks* before the planned date of defense.

- Submit the dissertation (along with the original signatures of the dissertation examination committee approving the dissertation) to the graduate school by the published deadline. See Graduate School web site for the deadlines for each semester.

  Note: Failure to submit the above on time to the Graduate School may delay your defense and/or graduation.

6 General Requirements and Processes

6.1 Ethics

A computer science professional is in a position to develop products upon which the health, wealth, and well being of the entire society rests. Graduate students are expected to exhibit highest ethical behavior, in terms of maintaining academic honesty, scholarly conduct, and professional standards. Instances of academic dishonesty range from cheating in exams, plagiarism in projects and homeworks, to unauthorized use of material. Consequences for unethical behavior can be severe. Penalties for academic dishonesty include lower course grade, failure in a course, loss of good standing, and expulsion from the graduate program. The department's graduate program web site has a separate detailed document regarding academic honesty and department's policies.

Violation of professional standards, such as falsifying resumes in job applications and reneging already-accepted offers for employment, internship or assistantship will entail significant penalties, including loss of good standing, lower course grades, and delays in graduation.

Policies and Processes for Addressing Academic Dishonesty: Charges of academic dishonesty may be brought by course instructors. Consistent with the Graduate School's policies, these charges are brought to the Graduate Program Director (GPD). A typical penalty for academic dishonesty such as plagiarism in a graduate course is an "F" in that course. When charged with academic dishonesty, a student has the right to view the evidence underlying the charge, and appeal the finding to the department's Graduate Grievances and Appeals Committee (G-GAC) for review. The G-GAC will conduct a formal proceeding to determine the validity of the charges and the appropriateness of the penalty, and submit a recommendation to the Graduate Program Director. The G-GAC's recommendation and the Graduate Program Director's decision may be appealed to the Dean of the Graduate School.

The GPD will advise the students on their rights. A student, upon reviewing the charges and penalties, may plead guilty, thus forgoing the appeal to G-GAC. A guilty plea involves accepting the penalty, and signing a statement pledging academic integrity with an explicit understanding that future incidents of academic dishonesty will be grounds for dismissal from the graduate program.

While a charge is under investigation, a mark of "pending academic judiciary charges" will be placed on a students record (i.e., it shows up on a student's transcripts). This mark will be removed when the investigations (e.g., G-GAC proceedings) are complete. Findings of academic dishonesty or a guilty plea will form a part of the student's academic record, and can be viewed by any CS faculty member. Only those charges confirmed by the G-GAC or the guilty pleas will be placed on a student's record.

Other Violations: Charges of ethical violations outside of courses may be brought by respective campus units. Examples include (but are not limited to) cheating on employer programming tests, reneging on internship, job offers, any employment or lab/project offer (inside or outside the university), and more. When these charges involve plagiarism, the academic dishonesty processes described above will be followed to resolve these charges as well. Other charges, such as those involving harassment, classroom disruptions, etc. will be referred to Office of Community Standards for resolution.

6.2 Registration Requirements for Full-Time Status

Every graduate student is assigned a *level*, which is one of G1, G2, G3, G4, or G5. The first two, G1 and G2, apply to MS students, and G3 through G5 to PhD students. An MS student typically enters the graduate program with level G1 and a PhD student enters with level G3. After completing 24 graduate credits the student is assigned levels G2 and G4, respectively. **Note**: *credits for incomplete courses are not counted towards the 24 credits required for the G2 and G4 levels.* PhD students who have been advanced to candidacy are designated as G5 (see Section 5.5). Students who enter the graduate program after obtaining a graduate degree or having completed 24 graduate credits at Stony Brook University, SUNY Korea, or at another institution *in any discipline* (not necessarily Computer Science related) can request G2 or G4 designation (whichever applies) from the Graduate School.

Students in all academic levels must register for at least **9** credits in regular Fall and Spring semesters in order to attain full-time status.[2]

Note for Students with Full Tuition Scholarship: There is a limit to the number of credits of tuition support given to PhD students with full tuition scholarship (informally called as "tuition waiver"). This limit differs by campus and level, as follows:

- For Stony Brook University G1/G3 students, a full tuition scholarship will cover up to 12 credits of tuition. The tuition charge for 13–18 credits are the same as those for 12 credits. As a result, all the tuition for a G1/G3 student registered for 12–18 credits will be covered by the scholarship.
- For Stony Brook University G2/G4 and G5 students, a full scholarship will cover only 9 credits of tuition. The students will be liable for the tuition for any excess credits. As a result, G4 and G5 students are advised to limit their registration to a total of 9 credits. **Note:** G4 students with pending English Language requirements may request additional tuition to cover the required courses.
- For SUNYK students, if a student is supported by a full-time TA-ship or RA-ship, the support covers up to 12 credits for G1 and G3 students. For all other levels (G2, G4, and G5) a full-time support covers 9 credits. For anything above 12 credits or 9 credits, respectively, the student will be liable for the tuition for any excess credits.

6.3 The Need for Full-Time Status

International students (i.e., non-US residents in Stony Brook University; non-Korean students in SUNY Korea) must maintain full-time status throughout their course of studies in order to maintain legal immigration status. Domestic students (i.e., US citizens/residents in Stony Brook University; Korean students in SUNY Korea) are not required to maintain full-time status, but they must register for at least one credit each semester. *However, all students receiving financial assistance are required to maintain full-time status.* Full-time status may also be needed for on-campus housing.

Important Note: Consult Visa and Immigration Services (VIS) Office regarding immigration and related questions. The Computer Science graduate program staff is not equipped to answer visa-related questions. But they can assist in getting various departmental approvals as needed by the VIS office.

[2]Prior to Spring 2022, G1 and G3 students at Stony Brook University were required to register for 12 credits to attain full-time status.

Graduating Students Special considerations apply for the semester a student is graduating. *Students need to be registered for the semester they plan to graduate*. The Graduate School permits Summer graduates to register for 0 credits. Graduates in other semesters must register for at least 1 credit. Registration requirements to maintain full-time status in their graduating semester vary by campus, as described below.

For SUNYK Students: International students may enroll less than full-time in their last semester by registering only the credits needed to graduate that semester.

For Stony Brook University Students: Students who may not be able to take a full-time load due to documented medical reasons, or MS students in their graduating semester may *petition* to maintain full-time status despite enrolling only for the necessary credits (see "**Underload**" in Section 8.6).

6.4 Grade Requirements

All courses taken in Stony Brook, *regardless of whether they are counted for their degree requirement*, appear in the student's transcript and are used to compute the cumulative grade point average (GPA) on the transcript. The only exception is when a course is repeated in order to improve the GPA (see Section 6.10).

To be certified for graduation, the Graduate School requires a cumulative grade point average (GPA) of 3.0/4.0 or better over *all* graduate courses. In addition, the Computer Science Department requires a cumulative GPA of 3.0/4.0 for the set of courses that specifically satisfy the MS or PhD degree requirements in Computer Science.

6.5 Academic Standing and Probation

Students who do not maintain a cumulative graduate GPA of 3.0 or better will be *placed on graduate probation* by the Graduate School. *Students on probation may not be eligible for research, teaching or graduate assistantships.* A student on probation must bring their GPA to 3.0 or above within one semester (or 12 credits) after being placed on probation; otherwise, he/she will be subject to dismissal by the Graduate School. Students will get notifications about their probation status. Students on probation are required to meet with the Graduate Academic Advisor or Graduate Program Director to go over their academic plan. Satisfactory progress by a student will be determined by the requirements written in the Graduate Bulletin and this Handbook in effect at the time the student entered graduate studies in the Department, or at the discretion of the student, the requirements stated in the current editions of the Bulletin and Handbook.

6.6 Regulatory Requirements

Apart from the academic requirements listed above, students may be asked to meet certain requirements to be eligible for specific benefits or acquire and periodically renew certain credentials during their study. For instance, every student appointed as a TA is expected to undergo a mandatory TA training. Every student appointed as a federally-funded RA is required to undergo specific modules of "Responsible Conduct in Research and Scholarship" (RCRS) training. In addition, students working on projects involving sensitive data or human subjects may be required to undergo specific training (e.g., human-subject training). Credentials for RCRS and human subjects training will need to be renewed at specified intervals to maintain eligibility for RA appointments.

6.7 Petitions for Late Withdrawal from a Course

The Graduate School enforces the following policy with respect to petitions for late withdrawal from a course. *After the 15^{th} day (10^{th} day for SUNYK students) of classes, no course may be added or dropped.* Should it become impossible for a student to complete a course for a reason such as illness or accident, he

or she may petition the Dean of the college for a waiver of the deadline. Such a petition must be approved by both the Chairman and the Graduate Program Director of the Department.

A petition for a waiver of the deadline can be approved *only if* one of the following conditions is met:

1. Employment requires that a student be elsewhere at the same time that the class meets. This must be documented by the employer.

2. Illness or injury prevents class attendance. Since illness generally isn't selective and normally incapacitates a person equally for all courses, it would be expected that the student would withdraw for *all* academic work, unless special circumstances can be demonstrated.

The student must have a statement from the instructor affirming that he/she is in good standing at the time the petition is presented, and that he/she has been in regular attendance at classes and is up to date in all assignments.

The Graduate Program Director is bound by pledge not to send up a petition that does not satisfy the spirit of these requirements. Note that the Dean reserves the right to review and reject a weak petition.

It is the responsibility of the student to remain alert to the approach of the add-drop deadline if in doubt about his or her ability to complete the requirements for a course. Please consult the Graduate School Bulletin, the section on "*Academic Regulations and Procedures*," for additional regulations. The bulletin is available from the Graduate School's web site *http://www.grad.stonybrook.edu/*.

6.8 Semester Withdrawal and Leave of Absence

A student may petition to the Graduate School to withdraw from all courses in a semester. For international students, this process starts at the VIS office. Usual tuition penalties apply. The student will get a "W" on the transcript for the currently-enrolled courses.

A student may apply to go on leave from the program by petitioning to the Graduate School. Generally, leave of absence petitions must be submitted within the first 15 days (10 days for SUNYK students) of a semester. In rare cases, such as emergency medical conditions, leave of absence may be granted after the 15^{th} day (10^{th} day for SUNYK students) of classes. Applications for medical leave must be accompanied by a doctor's note substantiating the reason. A semester withdrawal petition must be submitted with the petition for leave.

A returning student should file for readmission at least 2 months before the semester of re-entry. A student returning from an approved leave of absence will be waived the readmission fee. Students returning from leave will also retain their campus housing privileges. A student returning from a *medical leave* must present a doctor's note certifying the readiness of the student to return to school.

6.9 Incompletes

Students with serious documented issues that prevented them from completing all course requirements during a semester, may, at the discretion of the course instructor, receive an "Incomplete" or "I" grade at the end of the semester. Students who receive an "I" grade for a course must complete that course's requirements within a timeline determined by the instructor. After that time, the "I" will become an "I/F" (for a letter-graded course), resulting in a significant hit to the GPA (same as an "F" grade). Note that the Registrar automatically turns all unresolved "I" grades into "I/F" after one semester typically.

Registering but not attempting a course (receiving the NR grade) is treated the same way as if the course was never registered for. It is particularly harmful for international students who need to maintain full-time registration status.

6.10 Retaking Courses

Graduate students may repeat courses with some restrictions. Per current Graduate School policy, *courses that are designated as "may be repeated for credit" may be taken more than once for credit and all grades earned will be used to calculate the GPA.* These courses are specifically courses with the following course numbers: CSE 522–24, 587, 590–96, 599, 600 and all course numbers above and including 640. All other courses can be *repeated at the discretion of the Instructor of the course and the Graduate Program Director, and they may only be repeated once.* In this case, the most recent attempt/grade will count towards the GPA, but both attempts and both grades will appear on the official transcript. This could be a mechanism to improve GPAs for students who have received poor grades in certain courses.

If interested in repeating such a course, the student should seek required approvals using the "Graduate Course Retake Approval Form" available in the Graduate School web site.

6.11 Controlling Course Load

Graduate courses and projects tend to require a substantial amount of work, so students are advised to plan carefully. Students are advised to take a judicious combination of lecture courses, CSE 523/524/599 (MS Project or Thesis, whichever applies), CSE 593 (Independent Study), CSE 698 (Teaching Practicum) and 1-credit CS seminars.

A schedule that includes more than 3 regular lecture courses in one semester is *strongly* discouraged. In fact, depending on the selection of courses, and other factors including student's ability, even 3 regular lecture courses in one semester may be a high load. The sample schedule in Figure 1 shows 3 courses in the first semester for MS students. This is our default advice for MS students, given the effort needed to adjust to a new environment (academic or otherwise), and the potential impact that such high workloads may have on a student's overall academic performance and GPA.

7 Financial Support

PhD students are generally supported on teaching or research assistantships. Some MS students are also supported in this way. A number of other support opportunities in other academic or administrative departments within the University become available to Computer Science students each year.

Teaching or research assistants are assigned part-time duties in the undergraduate or graduate instructional program or in faculty-supervised research projects, but are still able to carry a full academic program. Beyond the first year, PhD students are typically supported as research assistants by their dissertation advisor. Note that research assistantships are funded almost entirely from sponsored research grants, and the actual amount and availability may vary from year to year depending on the student's research area and advisor.

A student **must** be registered full time in order to qualify for teaching or research assistantship. PhD students receiving assistantship will also receive tuition scholarship to cover the number of credits needed to maintain full-time status. After a PhD student advances to candidacy, the university provides tuition scholarship for full-time students regardless of other financial support. At this time, the university does not award tuition scholarships to MS students.

Renewal of financial assistance each academic year depends upon the student making satisfactory progress towards the degree, and satisfactory fulfillment of the duties and responsibilities of any assistantship. The University limits renewals of annual teaching assistantships to three after the first year, for a total of four years. Beyond the fourth year, support is dependent on financial aid other than university assistantships, such as research grants or fellowships. All offers and renewals of financial assistance are subject to Graduate School approval and the availability of funds.

All assistants who receive a stipend perform their assigned duties as follows. A student on a full assistantship devotes no more than 20 hours/week to his/her assigned duties during the academic year and 40 hours/week during the summer. A student on a fractional assistantship must give the corresponding fraction of full service each week.

A graduate student who is assigned to teaching duties (teaching assistant) is responsible to the faculty member in charge of the course to which he or she has been assigned. Duties will be specified by that faculty member and will usually include some or all of the following: lecturing to students on any subject pertinent to the course that will amplify the faculty member's lectures; answering student's questions concerning the course work; proctoring examinations; preparing solutions; grading of examinations; correction of homework assignments; supervision of laboratory sections; holding regular office hours. A document that describes the responsibilities of a teaching assistant appears on the CS Graduate Program Web site (see under Graduate Programs/TA responsibilities).

PhD students with teaching duties may register for CSE 698 (Practicum in Teaching), for up to 3 credits. Note that CSE 698 does not count towards the credit requirements for PhD students.

7.1 English Proficiency Requirements for International Students

All international students and those who have taken their higher education in a non-English speaking country must demonstrate proficiency in English, as described in Section 3. The award of a Teaching Assistantship is contingent on the candidate's ability to speak English proficiently. All non-native English speakers will be required to have TOEFL/SPEAK score 23 or above, or IELTS/SPEAK score of 7 or above, before being assigned to classroom or other teaching duties. Students who do not meet these requirements must take remedial courses OAE 594, and possibly OAE 592, depending on their TOEFL/IELTS SPEAK scores. First year international students are advised to take full advantage of every opportunity to improve their fluency in English through frequent conversation with other English speakers, and by enrolling in appropriate English language courses.

Students on assistantship who cannot fulfill their obligations may not have their assistantships renewed; students who entered without support or with partial support will not be considered for full support the second year if they cannot assume the obligations of a teaching assistant.

8 Additional Information Specific to Stony Brook Students

This section, in its entirety, applies only to Stony Brook University students.

8.1 Sample Course Schedules for MS

> **Important:** Every student has different strengths, preparation, interests, and goals. The schedule below is shown only as a sample, and as a point of discussion. Many students' schedule may vary significantly from that. Students are strongly advised to formulate a schedule that suits them best, helps them build a strong academic background in terms of coursework, experiential projects and grades, and prepares them for success in their future careers.

An example course schedule for MS with Advanced Project Option is shown in Figure 1. This schedule assumes the student had a good undergraduate CS preparation.

Note: *Credits for the last semester add up to only 3. A student with a strong academic record and who is confident of successfully completing the requirements can then take an "underload"; other students may add any combination of courses to meet full-time status requirements.*

Year 1

FALL #1	Credits
Breadth #1	3
Breadth #2	3
Elective #1	3
Term Total	9

SPRING #1	Credits
Breadth #3	3
Elective #2	3
CSE 593	3
Term Total	9

SUMMER #1	Credits
CSE 596	1
Term Total	1

Year 2

FALL #2	Credits
Elective #3	3
Elective #4	3
CSE 523	3
Term Total	9

SPRING #2	Credits
CSE 524	3
Term Total	3

Figure 1: Sample MS Course Schedule

Alternative Schedules. Students with excellent academic preparation may be able to complete all requirements in three semesters (excluding Summer). Such an accelerated schedule may require more than 9 credits in a Fall/Spring, and/or graduate coursework or project over a Summer semester.

Note that one lecture course among those required—depending on your project track/option—can be met with 3 or more credits of CSE 698, Teaching Practicum. Credits for CSE 698 can be accumulated over multiple semesters. This may provide some flexibility in arranging an accelerated schedule without significant overload in any semester. However, CSE 698 also involves significant time commitment, and caution is advised when choosing this higher workload.

8.2 Internship

Some of the course credits required for the MS and PhD degrees can be satisfied with industrial internships. International students need special approval to work off-campus on internships (see Section 8.3). *Note that internships or practical training is not necessary for completing the graduate program.*

- *MS Program:* Credits for internship can be earned via CSE 596 (off-campus internship project) or CSE 597 (on-campus internship project).
- *PhD Program:* Credits for internship can be earned via CSE 696 (off-campus internship project) or CSE 697 (on-campus internship project).

The difference between the on-campus (597/697) vs. off-campus (596/696) courses is that students registering only for CSE 596/696 will not be assessed fees such as the "transportation fee," which are associated with on-campus activities.

Internship projects must have sufficient core Computer Science components requiring graduate-level work. To claim credit for an internship project, the student must provide a description of the duties to be performed as part of the internship and emphasize the educational/research value of the employment, and the internship's relevance to the student's course of study.

At the conclusion of their internship duties, the student should supply a letter from the place of internship that briefly describes the work performed. The letter does not need to reveal confidential information but rather should outline the work performed and its relevance to the student's degree. It should be the same level of detail one might put on a resume/CV (so that students can indeed describe the work briefly on their

CV, which is helpful for gaining full-time employment). This letter may be submitted as email to the graduate director/adviser. The letter should include a note on whether the student's performance in the project was satisfactory or not, and briefly summarize the intern's duties so they can be assessed by the graduate program at the conclusion of the internship, for the student to receive full credit for the internship; a detailed evaluation is not needed. Such a letter is essential for the student to receive grades in the accompanying course.

8.3 Curricular and Optional Practical Training

Due to U.S. government regulations related to work permits, international students must do internships through Curricular Practical Training (CPT) or Optional Practical Training (OPT).

Curricular Practical Training: CPT allows international students studying in the U.S. to go on an off-campus internship during their studies. It is described in detail by the Visa and Immigration Services (VIS) office here: *http://www.stonybrook.edu/commcms/visa/current_students/employment/employment_cpt.html*. The rules require that employment be an "integral" part of the student's established curriculum (i.e., to ensure that the internship is highly related to the student's course of study).

CPT can be taken *only* in conjunction with a course, as specified below, and certain restrictions apply.

- *MS Program*: CPT can be taken in conjunction with CSE 596 (Internship in Research), CSE 523/524 (Advanced Project in Computer Science I and II), or CSE 599 (MS Thesis Research).
  - CPT can be taken in conjunction with CSE 596. Consistent with the requirements of CSE 596, the student must provide a description of the duties to be performed as part of the internship and emphasize the educational/research value of the employment, and the internship's relevance to the student's course of study.
  - If CPT is taken in conjunction with CSE 523/524 or CSE 599, the work to be performed as part of the training must be an integral part of the student's MS project or thesis, whichever applies. The student must submit a description of the work to be performed during the training and explain how it is integral to the project or thesis.
- *PhD program*: CPT can be taken in conjunction with CSE 696 (PhD Internship in Research) or CSE 699 (PhD Dissertation Research).
  - CPT can be taken in conjunction with CSE 696. The student must provide a description of the duties to be performed as part of the internship and emphasize the educational/research value of the employment.
  - If CPT is taken in conjunction with CSE 699, it must be an integral part of the student's PhD thesis work. The student must submit a description of the work to be performed as part of the training and explain how it is integral to the dissertation research.

Whether CPT is taken in conjunction with CSE 596/696 or CSE 523/524/599/699, the aforesaid description must be filed with the Visa and Immigration Services (VIS) office. Endorsements by the student's project or thesis advisor, the employer, and the Graduate Program Director may be needed as per the current policy in force in the VIS office.

Procedure for applying for CPT: CPT application starts with the VIS portal. Upon completion of their application, the CS department gets a notification to clear the student for internship; the CS department

verifies that the student meets the departmental requirements to receive a CPT. The VIS office resumes processing upon receiving an approval from the CS department.

Every student who accepts an offer for internship should declare their intent to go for internship with a *specific* employer to the department within 7 days of accepting the offer. CPTs will be approved only to the declared employer. Failure to declare accepted offer in a timely manner will result in denial of CPT. Any substantiated report of reneging on internships, despite these mechanisms, will result in an unsatisfactory ("U") grade in the internship course and denial of additional/future CPTs.

Requirements for CPT: The VIS office at the Stony Brook University does not approve CPT requests for international students unless the student (i) *has completed two full regular semesters* (i.e., Fall or Spring) in residence, (ii) has a GPA of 3.0 or above and is otherwise in good standing, and (iii) has no incomplete grades. In addition, the Computer Science Department does not normally approve CPT requests the student has completed proficiency requirements (if any) stated in the offer of admission.

A student may apply for CPT during Fall and Spring semesters under certain special circumstances:

- If the student's PhD thesis, or MS advanced project or thesis require this internship; then a CPT may be taken in conjunction with CSE 523/524, CSE 599, or CSE 699.
- If an MS student is pursuing an internship not directly related to their MS thesis or project, the student's advisor approves of the internship, and certifies that the internship work is not expected to impede the normal academic progress of the student.

See Fall/Spring CPT document for more details on the constraints that apply to internship in Fall/Spring semesters. Note that any internship, regardless of the semester/summer it is taken, must still be related to a student's course of study (i.e., Computer Science).

Optional Practical Training: This matter concerns only international students. International students are typically granted certain period when they can work in the U.S. during and after completion of their degree. This opportunity is known as Optional Practical Training (OPT). OPT is *not* part of the Computer Science graduate program. However, an international student who wishes do an internship (CSE 596/597/696/697) can do so in conjunction with OPT, if for some reason this internship cannot be done as part of CPT. However, using OPT for an internship before completing a degree comes with significant downsides. Please consult the specialists of the VIS office regarding the rules governing the OPT option.

8.4 Financial Support

General information regarding financial support appears in Section 7.

PhD students in Stony Brook who are appointed as Teaching/Research/Graduate Assistants and/or as fellows receive tuition awards. Out-of-state residents who are able to do so (U.S. citizens and permanent residents) **must** become New York residents after twelve months of their graduate studies in order to remain eligible for tuition awards. Full information and requirements can be found here: *http://www.stonybrook.edu/commcms/bursar/residency/index.php*. A full tuition award generally covers tuition for 9 credits, which is required for the student's full-time status. G3 student's tuition award covers up to 12 credits of tuition. Students with English Language requirements may request additional tuition to cover the required English courses.

8.5 Summer Registration

New students: New students who were admitted for full-time studies must register full-time during their first semester on campus. For Stony Brook University students, this means that summer admits must register for at least 6 credits for the summer session to which they were admitted. They do not need to register for Summer Session II if they have registered for Summer Session I.

Continuing students: Continuing students who have a GA or RA during the Summer must register for either of the two summer sessions. If no appropriate courses are available, students may register for 0 credits of CSE 800.[3] The Graduate School advises this for reasons related to tracking federal grants, tax issues, and Homeland Security. Summer registrations are required to ensure continuation of fellowships. However, summer registrations are not required for determining full-time status of continuing students.

8.6 Underload (Part-Time Enrollment)

An international graduate student with a documented medical condition (in any semester), or in their graduation semester, may petition to be considered for full-time status despite enrolling in fewer credits than otherwise required to maintain that status. Students must contact the VIS office directly if they want to be considered for this due to medical reasons. For students in their graduating semester petitioning for this full-time certification, they must be registered for the credits and courses sufficient to satisfy the graduation requirements. Note that the certification is not automatic. Students have to submit a petition for an "part-time enrollment" via the VIS office, which must then be approved by the Department, then routed back to VIS for final checks and approvals.

Domestic students who need this certification should contact the Graduate Program Coordinator.

Important, please read: "Underloading" in the final semester may seriously affect international students. The student **must** graduate at the end of the semester in which an underload is granted. Otherwise, there could be a violation of the legal immigration status. Thus, underload should be selected prudently. A student on underload who does not meet the requirements to graduation may have no visa, no CPT or job, and no degree—and will be forced to leave the country. See *https://www.stonybrook.edu/commcms/visa/current_students/parttime_enrollment.html* for details.

The department may deny underload petitions for "at risk" students such as those with borderline GPAs or a history of probation.

9 Additional Information Specific to SUNY Korea Students

This section, in its entirety, is applicable to SUNY Korea students only.

9.1 Financial Support

General information regarding financial support appears in Section 7.

The following information is available to SUNY Korea students: Graduate Research Assistants who receive more than 60% of their stipend/salary from their advisor's grant(s) and have a GPA of 3.5 or higher will have a 100% tuition waiver.

9.2 Research Visit to Stony Brook University

The Computer Science programs at SUNY Korea and Stony Brook University (SBU) are tightly integrated academically. This enables graduate students of both campuses to spend one or more semesters at the other

[3] CSE 800 does not count towards any degree.

institution to gain valuable multi-cultural experiences of how computer science technology is developed and applied. The research visit is optional for MS students. The implementations and requirements vary as described in the subsections below.

A SUNY Korea student may be able to graduate at Stony Brook rather than returning to SUNY Korea to graduate at SUNY Korea. A student who has been at SBU for at least two consecutive semesters leading to graduation will be able to apply for Optional Practical Training (OPT). Even without subsequent graduation at SBU, a 2-semester residence at SBU affords the student the opportunity of Curricular Practical Training (CPT).

Applications for a research visit must be filed with the SUNY Korea Computer Science Department. Forms and guidelines are available at the department website. There are strict deadlines to file these applications:

- For a visit starting in Fall: apply by March 31^{st} of that year.
- For a visit starting in Spring: apply by September 30^{th} of the previous year.

After the application is approved, the student will be contacted by the Stony Brook Visa and Immigration Services to start the I-20 process.

Note that the living cost in New York is higher than in Songdo. The living expenses for 1 year are estimated to be $15,200. Mandatory health insurance adds another $1,200. Self-funded students will be requested by the Stony Brook Visa and Immigration Services to provide proof of personal funds to cover these expenses. These will be in addition to tuition and fees which are slightly higher than the tuition and fees charged at SUNY Korea and will depend on how many credits the student is taking at Stony Brook. Students, PhD students in particular, should secure financial support at Stony Brook before s/he applies for the visit. Students covered by research grants in the form of research assistantships or scholarships will need to provide evidence for these at the time of application. Even while at SBU, students should include SUNY Korea affiliation in all published papers until graduation. Ideally, students will include affiliations of both SBU and SUNY Korea.

9.2.1 Research Visit Requirements for MS Students

An MS student wishing to visit SBU to study must meet the following requirements:

- The student's GPA must be 3.5 or higher.
- All course grades earned in the SUNY Korea CS department must be B+ or better.
- The visit is only permitted after two or more semesters at SUNY Korea and a minimum of 18 CSE course credits (excluding ESL credits). With 31 required MS credits this results in the following two options:
  - Spending one semester in Stony Brook: The student will not be eligible to apply for OPT.
  - Spending two semesters in Stony Brook: The student will be eligible to apply for OPT.

  In order to justify a duration of two semesters at Stony Brook the student should have exactly 18 CSE credits taken at SUNY Korea before visiting SBU. (Eighteen credits would satisfy the minimum of 18 CSE course credits needed at SUNY Korea and two semesters needed at SBU to do OPT.) ESL credits do not count. If a student plans to begin an Advanced Project at Stony Brook, they need to secure an advisor at Stony Brook or SUNY Korea before they get there. Otherwise, the student can do a CSE 522 or begin a project or thesis already at SUNY Korea − the student's SUNY Korea advisor will then either continue to advise the student remotely or recommend a colleague at Stony Brook.

The required documents when filing the application are:

1. Completed application form.
2. Unofficial SUNY Korea transcript (must show courses enrolled in the 2^{nd} term).
3. Curriculum Vitae (CV): examples of projects done at SUNY Korea and elsewhere should be presented.
4. Personal statement: a list of academic objectives should describe what the student hopes to achieve by visiting SBU.
5. Two reference letters from SUNY Korea CS faculty members: the form should list their names and the student should ask them to send their letters by email to the department coordinator by the deadline.

In the typical case an MS student will have taken 18 credits at SUNY Korea and wishes to spend 2 semesters at Stony Brook. This student would then take 12 credits in semester I and 3 credits in semester II at SBU. With 18 credits taken at SUNY Korea the student will be visiting as a G1 student (unless s/he already has an MS degree taken at a prior institution). Contrary to SUNY Korea, G1 students at Stony Brook are required to take 12 credits to gain the full-time student status required for the F-1 visa.

Once the application is received, it will be reviewed by a research visit admission committee at Stony Brook and the applicant will be informed about the outcome within one month after the deadline.

9.2.2 Research Visit Requirements for PhD Students

A PhD student may make a research visit to SBU for a year. Before filing an application for a visit, the student must get an approval from his/her dissertation advisor. The student must meet the following requirements to apply for such a visit:

- The student's GPA must be 3.5 or higher.
- The student must have passed the thesis proposal before the anticipated visit date.
- The student should have found a co-advisor (or a secondary advisor) at SBU, who can be a faculty member listed on the following webpage: *https://www.cs.stonybrook.edu/people/faculty*. The dissertation advisor from SUNY Korea continues to remain as the dissertation advisor for the entire duration of the visit.
- There should be some evidence that the student has been working with the co-advisor (or the secondary advisor) on a research topic of common interest between them. If they have written or plan to write a joint research proposal to NSF, for example, it would be good to include something about that in the application.
- The student should have financial support secured at SBU prior to application.

The required documents when filing the application are:

1. Completed application form.
2. Unofficial SUNY Korea transcript.
3. Curriculum Vitae (CV).

4. Personal statement that addresses the academic objectives of the research visit and describes a research plan that will be conducted at SBU. It should also outline what roles the Stony Brook co-advisor (or secondary advisor) and the SUNY Korea dissertation advisor will play in achieving the academic objectives.

5. Information on the student's source of funding (research grants, scholarships, personal funds, etc.).

Some additional important points to keep in mind during the visit at SBU are the following:

- The initial period of a research visit is to be one year, but the student may apply for an extension for another year. The application must be approved by both CS Department Chairs at SBU and SUNY Korea in addition to the Graduate Program Director of the SBU CS Department.
- The student's affiliation remains with SUNY Korea until graduation.
- The student's dissertation advisor must still be a core faculty member in the Computer Science Department at SUNY Korea until graduation.
- If applicable, students are still required to acknowledge the funding support that they received while at SUNY Korea, e.g., ICTCCP support, until graduation.
- A student supported by a research grant at SUNY Korea must follow the regulations enforced by SUNY Korea and the grant agency.