



Stony Brook
University

Computer Science

GRADUATE STUDENT HANDBOOK

Fall 2017 Edition
Revised for SUNY Korea

This handbook describes the M.S. and Ph.D. programs in the Computer Science Department. Information on graduate faculty and graduate courses are available on our web site <http://www.cs.sunykorea.ac.kr/>. The department's postal address is:

Graduate Program Director
Department of Computer Science (Room B-419)
SUNY Korea
119 Songdo Moonwha-ro, Yeonsu-gu, Incheon, Korea 21985
Tel: +82-32-626-1202
Email: csgraduate@sunykorea.ac.kr

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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 graduate 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 and Graduate School Policy Manuals are available on the Graduate School web site (<http://www.sunykorea.ac.kr>). 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.

2 Goals of the Programs

The Department of Computer Science offers an M.S. and a Ph.D. in Computer Science. The M.S. program is designed primarily to train students with professional goals in business, industry, or government, requiring a detailed knowledge of computer science concepts and applications. The program concentrates primarily on applied computer science, emphasizing software development, programming, computer systems, and applications. Each student is given the experience of working on a large scale software or hardware development project involving analysis, design, evaluation, and implementation.

The Ph.D. 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 the 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 Ph.D. student should seek a faculty member to serve as a research or dissertation advisor within the first two semesters in 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 groups, meetings and seminars by which a new student can become acquainted with the research being conducted in the Department. Please refer to Section 6.1 for the specific rules on choosing or changing an advisor.

A student who is progressing satisfactorily toward the Ph.D. can earn an M.S. degree as well. A student enrolled in the M.S. program can apply for admission to the Ph.D. program as described in Section 5.9.

3 Requirements for Admission to Graduate Study

Admission to the M.S. and Ph.D. 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 - Basic Mathematics: Two semesters of college level calculus, plus a course in linear algebra. Also desirable is a course in either probability theory or probability and statistics.

C - Minimal Background in Computer Science: The student must have at least undergraduate level proficiency in the core computer science areas. If the student does not have a degree in computer science, he/she must demonstrate this proficiency via junior/senior undergraduate level coursework or relevant job/project experience *preferably* in the following core computer science areas: discrete mathematics, theory of computing, algorithms, programming languages or compilers, computer organization/architecture and operating systems. If exposure is lacking in one or two of the above areas, similar level of exposure in the following areas may be acceptable instead: computer networks, artificial intelligence, databases, computer security or computer graphics.

Note that mere programming experience is usually not considered sufficient.

D - GRE Examination. All applicants to the M.S. or Ph.D. program must submit Graduate Record Examination (GRE) scores for the general aptitude tests. Applicants are encouraged to submit GRE test scores for the advanced examination in Computer Science as well.

E - TOEFL. All applicants whose primary or native language is not English are required to submit a valid TOEFL score. The only exception to this requirement is for M.S. applicants who are not getting financial support as teaching assistants, and who have graduated and received a degree from an institution where English is the sole language of instruction; such students can apply for a TOEFL waiver. Additionally, a SUNY Korea student may enter the graduate program without meeting the TOEFL requirement by enrolling in the Intensive English Program (IEP) and pass the English requirements when IEP curriculum is completed with passing grades. See <http://www.sunykorea.ac.kr/academics/521> for more information.

F. Acceptance by the Computer Science Department and 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 provisional basis. In such cases, the student will be informed of the requirements that must be satisfied for the termination of the provisional status. Note that this is not typical or routine. Regardless, the students admitted without the minimal background in computer science can expect to do remedial classes and hence can take longer to graduate.

Students from other science, mathematics or engineering disciplines without the stipulated minimal background in computer science may build up acceptable background by taking appropriate undergraduate level courses in the Computer Science Department at SUNY Korea or Stony Brook University as a *conditionally admitted* M.S. student.¹ Contact the SUNY Korea Computer Science Department for more information. However, depending on the background of the student, this may take substantial time as several of these courses have pre-requisites. Also, mere completion of relevant courses does not automatically guarantee admissions to the Computer Science graduate programs.

3.1 Transfers into the Graduate Program

The Computer Science Department does not have a separate procedure for ‘transferring’ into the graduate programs in Computer Science from another program either in SUNY Korea or elsewhere. If a student wishes to be in the Computer Science M.S. or Ph.D. program, he/she must apply for admission. It is immaterial whether the student is already a graduate student in SUNY Korea in another department or in another university elsewhere. Also, the Computer Science Department does not have any procedure for students

¹The student can take these courses in another college or university as well.

in another graduate program in SUNY Korea who wishes to consider Computer Science as a secondary program. Such students must still apply for admission in the department.

If admitted, the student *may be* able to transfer graduate credits in computer science from another university subject to the following rules:

- Only credits for bona fide graduate courses can be transferred. Graduate courses co-scheduled with undergraduate courses are not accepted.
- *No more than 9 credits* of graduate courses can be transferred. Students who took approved courses at SUNY Korea or Stony Brook University can transfer up to 12 credits.
- In order to be counted towards graduation, the credits must be evaluated and approved by a Computer Science faculty member. The evaluation must establish an equivalence between a course being transferred from another institution to a regular Computer Science course at SUNY Korea that is accepted as part of the graduation requirements. The faculty member must be one of those who is teaching the corresponding graduate course on a regular basis. Students wishing to transfer courses must note that such approval is not automatic or guaranteed.
- Graduate courses that do not meet the previous requirement can be transferred without being counted towards graduation. This can sometimes be useful because students who have earned 24 graduate credits of any kind need to be registered for only 9 credits (instead of 12) in order to have full status. Therefore, gaining this status early might reduce tuition liability.

4 General Requirements

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 effect 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 in Computer Science as expeditiously as possible. *The students must graduate once the minimum degree requirements are satisfied. In other words, they cannot stay in school and delay graduation even when the requirements have been met in order to take additional courses or for any other reason.* Further, the students should only take Computer Science courses. Taking courses outside Computer Science (except required English proficiency courses) is not encouraged and must be approved by the student's academic advisor and the Graduate Program Director. In any case, such courses ordinarily do not apply for graduation requirements in the Computer Science Department.

4.1 Registration Requirements and Status

The status of a graduate student is defined as G1, G2, G3, G4, or G5. The first two, G1 and G2, refer to M.S. students and G3 through G5 to Ph.D. students. An M.S. student typically enters the graduate program with status G1 and a Ph.D. student enters with status G3. After completing 24 graduate credits the student receives the status G2 and G4, respectively. **Note:** *credits for incomplete courses are not counted towards the 24 credits required for the G2 and G4 status.* Ph.D. students who have been advanced to candidacy are designated as G5 (see Section 6.5). Students who enter the graduate program after obtaining a graduate degree or having completed 24 graduate credits at SUNY Korea, Stony Brook University, 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 the G1, G2, G3, or G4 status must register for 9 credits in a regular Fall or Spring semester in order to have full-time status. A G5 student should normally register for 9 credits of dissertation research (CSE 699) only. If a student is performing research outside of Korea or the United States, then the student would register for 9 credits for CSE 701. G5 students may be permitted to take other courses that are directly relevant to the dissertation they are writing, but only with previous approval from their Graduate Program Director. In these cases the courses must all be graduate level (500 or above) and the total number of credits must equal 9. Still, at least three credits must come from CSE 699 or CSE 701.

Non-Korean students must be enrolled full-time (9 credits) each semester except the last semester when he or she only needs to register the credits needed to graduate that semester.² Korean students are not required to maintain full-time status, but they must register for at least one credit each semester. *However, students receiving financial assistance are required to maintain full-time status.* Full time status may also be needed for on-campus housing or work.

Via petition, an M.S. student (but not a Ph.D. student) can be considered to have full-time status in the last semester of studies even if he or she is registered for less than the required 9 credits. To obtain this full-time certification, the student must be registered for the amount of credits (and courses) sufficient to satisfy the graduation requirements. Note that the certification is not automatic — the student has to submit a petition for an “underload” to the Graduate Secretary.

The following rules apply for Summer registration:

New students: New students who were admitted for full-time studies must register full-time during their first semester on campus.

Continuing students: Continuing students who have a GA or RA during the Summer are strongly encouraged to register for the summer. If no appropriate courses are available, students may register for 0 credits of CSE 800.³

Graduating students: Special considerations apply for the semester a student is graduating. The 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. **Note:** Non-Korean students must make sure that they are registered for enough credits to have full-time status.

4.2 Grade Requirements

All courses ever taken in SUNY Korea and Stony Brook University appear in the student’s transcript and are used to compute the cumulative grade point average (GPA) on the transcript. The only exception to this rule is when a course is repeated in order to improve the GPA (see below).

The student sometimes may end up taking courses that are not counted as a part of their degree requirement. This can happen, for example, due to the semesterly registration requirement for the full-time status. See Section 4.1. But they all be counted for determining the GPA in the official transcript.

To be certified for graduation, a cumulative grade point average (GPA) of 3.0/4.0 or better over all graduate courses is required by the Graduate School. This is regardless of whether all these courses are actually a part of the degree requirement. In addition, the Computer Science Department requires a cumulative GPA of 3.0/4.0 for the set of courses that specifically satisfy the M.S. or Ph.D. degree requirement in Computer Science.

² If a student needs to register less than full-time in a non-graduating semester or anything related to visa, consult the Visa and Immigration Services (VIS) Office (Academic Affairs) regarding immigration and related questions. The computer science graduate program staff is normally not equipped to answer visa related questions. But they can point you in the right direction and assist in getting various departmental approvals as needed by the VIS office.

³ CSE 800 does not count towards any degree.

4.3 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. Consequences for unethical behavior can be severe. Instances of academic dishonesty range from cheating in exams, plagiarism in projects and homeworks, to unauthorized use of material. 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 renegeing already-accepted employment will also entail significant penalties, including loss of good standing and delays in graduation. Findings of academic or professional ethical violations can be appealed to Graduate Program Director, who may task the department's Graduate Grievances and Appeals Committee (G-GAC) for a formal review and recommendation.

4.4 Academic Standing and Probation

Students who do not maintain a cumulative graduate grade point average of 3.0/4.0 or better may either be *dismissed* or *placed on graduate probation* by the Department of Computer Science. *Students on probation may not be eligible for research, teaching or graduate assistantships*. A student on probation must bring his or her grade point average up to 3.0/4.0 within one semester (or 12 credits) after being placed on probation; otherwise, he/she will be subject to dismissal by the Department of Computer Science. 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.

4.5 Incompletes and Petitions for Late Withdrawal from a Course

The Graduate School enforces a demanding and well-defined policy with respect to petitions for late withdrawal from a course.

After the 15th day 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 the student's attendance at the class. 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 or she is in good standing at the time the petition is presented, and that he or 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. The student should arrange a meeting with

the instructor to determine whether requirement (2) above will be satisfied in case of a late withdrawal. 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.sunykorea.ac.kr>).

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 “F” (or “U” for S/U graded courses) and completion of the course will no longer be possible.

4.6 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.

4.7 Curricular and Optional Practical Training

Some of the course credits required for the M.S. and the Ph.D. degrees can be satisfied with industrial internships. Due to government regulations related to work permits, non-Korean students must do internships through Curricular Practical Training (CPT) or Optional Practical Training (OPT). *Note that internship or practical trainings are optional.*

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

- *M.S. 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 (M.S. Thesis Research).
 - CPT can be taken in conjunction with CSE 596 *at most once*. 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 523/524 or CSE 599, the work to be performed as part of the training must be an integral part of the student’s M.S. 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.
- *Ph.D. program:* CPT can be taken in conjunction with CSE 696 (Ph.D. Internship in Research) or CSE 699 (Ph.D. Dissertation Research).
 - CPT can be taken in conjunction with CSE 696 *at most twice*. 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 Ph.D. 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.

On completion of CPT, the student should supply an evaluation letter from the supervisor at the place of internship, written on company stationery, which describes the work performed during the internship and evaluates the student's job performance. This letter will be kept in student's file. This letter is essential for the student to receive grades in the accompanying course.

Note: The Computer Science Department does not normally approve CPT requests from international M.S. students unless all of the following conditions apply: (i) the student has completed two full regular semesters (i.e., Fall or Spring) in residence, (ii) he/she has a GPA of 3.0 or above and is otherwise in good standing, (iii) has no outstanding proficiency requirement if any is stated in the offer of admission letter, (iv) has no incomplete grades, and (v) the proposed CPT period is for the Summer only (CPT is not approved during a regular semester: Fall or Spring).

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 to take CSE 596 (Internship) can do so in conjunction with OPT, if for some reason this internship cannot be done as part of CPT. Please consult the specialists of the VIS office regarding the rules governing the OPT option.

4.8 Controlling Course Load

A graduate student at SUNY Korea must register for 9 credits to maintain full time status. Those 9 credits may include CSE 523/524/599 (M.S. Project or Thesis, whichever applies), CSE 593 (Independent Study), CSE 698 (Teaching Practicum) or 1-credit CS seminars. If you want to take more than 9 credits, we advise you to plan carefully since graduate courses and projects tend to require a substantial amount of work. Although we encourage you to consider taking more than 9 credits (Graduate School allows students to take up to 18 graduate credits), a course schedule that includes more than 4 regular lecture courses in one semester is not advised.

5 Requirements for the M.S. Degree

Students in the M.S. degree program choose between three options:

- *Basic Project Option.* In this option, a student receives a broad coverage of Computer Science with at least one project-oriented coursework. A student must take 3 credits of CSE 522 (Basic Project in Computer Science) as a part of his/her graduation requirement.
- *Advanced Project Option.* In this option, a student undertakes a more involved, two-semester long project under the guidance of a faculty advisor. The student must take 3+3 credits of the two-semester long sequence of CSE 523/524 (Advanced Project in Computer Science I and II) as a part of his/her graduation requirement.

- *Thesis Option.* In this option, a student performs a research project under the guidance of a faculty advisor (usually 2–3 semester long), and writes a dissertation. The student must take 6–9 credits of CSE 599 (M.S. Thesis) as a part of their graduation requirement.

Regardless of the chosen option, students are required to complete *a minimum of 31 graduate credits* in the Computer Science Department with cumulative GPA of at least 3.0. *All individual courses counted in this pool of 31 credits must be done with at least a grade C.* The actual course requirements depend somewhat on the option chosen.

Generally speaking, Advanced Project and Thesis Options provide more flexibility for course choices as the student may have to do a variety of different courses related to their project or thesis topics. The required 31 credits must satisfy the following requirements.

1. *Breadth Requirement.* All students must satisfy the M.S. breadth requirement regardless of the chosen option. See Section 5.1.
2. *M.S. Project or Thesis (3, 6, or 9 credits).* This requirement depends on the chosen option. This requirement can be satisfied by taking 3 credits of CSE 522 (Basic Project Option), 6 credits of the CSE 523/524 course sequence (Advanced Project Option), or 6–9 credits of CSE 599 (Thesis Option).
3. *Computer Science Graduate Courses.* The remaining credits can be satisfied by taking Computer Science graduate courses at the CSE 500 and CSE 600 levels **with the following restrictions.** Note that *all* these restrictions must be satisfied.
 - At most 2 credits can be counted from *all credits accumulated* in the following courses: CSE 593 (Independent Study), CSE 596 (Internship in Research),⁴ 1-credit Seminar courses (CSE 640–661, but not CSE 600) and Special Topics courses (CSE 665–686).⁵
 - Topics or Advanced Topics courses (CSE 590/591/592/594/595 and CSE 690–692) can count at most 6 credits overall (i.e., up to 2 such courses).
 - At most 3 credits can be counted from CSE 698, Practicum in Teaching.
 - There are further restrictions for students in the Basic Project Option. For these students, any combination of the following courses can count at most 6 credits overall (i.e., up to 2 such courses). The courses are CSE 590/591/592/594/595 and *any course in the CSE 600 level.*
 - At most 4 credits can be counted from all courses taken to fulfill *proficiency requirements* (identified in the M.S. admission letter). See Section 5.8 for further details.
 - No credits are counted for any of the following courses, which are specifically meant for Ph.D student: CSE 600, CSE 696, CSE 699, CSE 700, and CSE 701.
 - Generally speaking, a student in one option cannot use project or thesis courses meant for another option for graduation credits. In other words, use of the courses such as CSE 522,523/524 and 599 are option specific. However, there is some flexibility. More about this in Section 5.6.

Relevant graduate courses in other departments can be used towards the 31 credits, *but if only approved by the Graduate Program Director.* To this end, the student must argue the case for taking a

⁴1 credit max from CSE 596.

⁵‘Special Topics’ courses are different from ‘Topics’ or ‘Advanced Topics’ courses. Special Topics Courses are those with course numbers in the range CSE 665–686.

particular course by submitting a petition (e.g., arguing that such a course is needed for the student's project/thesis), which must also be endorsed by the student's project or thesis advisor. This is only applicable for students in the Advanced Project or Thesis Option. Students in the Basic Project Option cannot use any non-CSE course for graduation credits.

5.1 M.S. Breadth Requirement

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

Every student must satisfy the M.S. breadth requirement by the time of graduation regardless of the chosen option. The requirement is that the student must take and *obtain a grade of C or better* in at least 1 course from each of the following 4 areas listed below.

Theory

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

Software

- CSE 504: Compiler Design
- CSE 505: Computing with Logic
- CSE 526: Principles Programming Languages
- CSE 532: Theory of Database Systems
- CSE 535: Asynchronous Systems

Systems

- CSE 502: Computer Architecture
- CSE 506: Operating Systems
- CSE 508: Network Security
- CSE 509: Computer System Security
- CSE 534: Fundamentals of Computer Networks

Intelligent and Information Systems

- CSE 519: Data Science Fundamentals
- CSE 527: Introduction to Computer Vision
- CSE 528: Computer Graphics
- CSE 537: Artificial Intelligence
- CSE 564: Visualization
- CSE 628: Natural Language Processing

The student may take more courses in the list of breadth courses. The above is *only the minimum* required to satisfy the breadth requirement. The courses can be done in any sequence. Some of these courses may have separate Ph.D. and M.S. sections. The M.S. students must attend the M.S. section.

For the purpose of satisfying the M.S. breadth requirement, CSE 522 (Basic Project in Computer Science) will be treated as equivalent to the actual course the student attends. For example, if the student attends

CSE 506 (Operating Systems) using the CSE 522 course designator, the student will be considered to have satisfied the breadth requirement in the Systems area. See more about CSE 522 in Section 5.3.

5.2 Project or Thesis Advisor

A student in the M.S. program opting for Advanced Project Option or Thesis Option must select a project or thesis advisor by the end of the *second* semester in the program. The role of the advisor is to guide the student through the M.S. studies, formulate a project or a thesis topic, and supervise the student towards the completion of the assigned task. The students in the Basic Project Option do not have a faculty advisor and the Graduate Academic Advisor or the Graduate Program Director serves as the default advisor for such students.

5.3 Basic Project Option

Students in this option are required to register for “Basic Project in Computer Science” (CSE 522). The course designation CSE 522 is used to indicate a regular Computer Science graduate course that is heavy in projects. A set of such courses will be announced via the departmental web site as soon as the official course schedule is known for the semester. The student will actually attend one such project-heavy course (say, CSE 506 Operating Systems) along with the students who would ordinarily register for that course (e.g., CSE 506 in this example). When registering for CSE 522, the student must register for the section corresponding to the faculty member teaching that course (e.g., CSE 506 in this example).

The student *must not register for both* the cover 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 CSE 522 designator. The 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. The student should seek this approval as soon as possible in the semester he/she is taking this course.

Note: Student intending to follow the basic project option need to register for a course under the CSE 522 designator. The CSE 522 designator cannot be applied retroactively after a course is completed.

5.4 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 523/524) under the supervision of a Computer Science faculty member. The student registers for CSE 523/524 under the section of this faculty member.

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 523/524 must be taken in two different semesters (not necessarily consecutive) and in that sequence.

The student must exercise care in choosing project and advisor. Often a student finds her/himself in a position where s/he does not want to continue with the same advisor for CSE 524 after completing CSE 523.

However, switching project advisors implies that CSE 523 must be done a second time with the new advisor. Only the later CSE 523 can be used for the 31 credit graduation requirement.⁶

Note that CSE 523 or 524 cannot be normally be used for graduation requirements for students opting for the other two options. See also Section 5.6.

5.5 Thesis Option

In this option the student registers for 6-9 credits of CSE 599. The thesis must be approved by a departmental faculty committee of no less than three members chosen with the consultation of the thesis advisor. At the discretion of the committee, the student may be required to defend the thesis by presenting a departmental seminar on the topic of his or her thesis. The thesis approval/defense must be done before the deadline set by the graduate school for the student's graduating semester.

Note that CSE 599 cannot be used for graduation requirements for students opting for the other two options. See also Section 5.6.

5.6 Choosing an M.S. Option

In order to choose an option the students should carefully review 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 options provide the opportunity for more in depth study in a direction of student's interest and the opportunity to work closely with a faculty member and his/her research group. The Basic Project Option is meant for students who simply likes to take a broad range of basic Computer Science courses. These would normally be the students who lack background on one or more core aspects of Computer Science due to the specific undergraduate preparation they have, or simply prefer to take range of basic courses instead of a more focused project or research. In the Basic Project Option, the minimum project experience needed for graduation is just one project-heavy coursework.

The student does not need to declare in advance the option he/she chooses. Thus, the student can switch between options. But planning ahead and sticking to one option would be in the best interest of the student. Otherwise, the student may end up taking more courses than really necessary for the degree. In any case, **at the time of graduation the student must clearly fall into one of the designated options.**

Any additional courses the student may have done that is not appropriate for this option cannot be used for graduation credits.⁷ This means, for example, that credits for CSE 523/524 or CSE 599 cannot be used for graduation for a student graduating with the Basic Project Option. However, the following exceptions can be made.

- CSE 522 can be used as a regular Computer Science graduate course to satisfy the graduation credit requirements even for students opting for Advanced Project or Thesis Options.
- Swapping credits of CSE523 for CSE599 may be possible, but only if approved by the Graduate Program Director on a recommendation of the student's project/thesis advisor. This allows students to smoothly move to a Thesis if substantial work has been done in CSE523.

⁶The other CSE 523 will stay in the transcript and will still be used for GPA calculations.

⁷However, they still stay in the transcript and are used for GPA calculations.

5.7 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 before can use CSE 593: Independent Study. This requires advance concurrence of a faculty member supervising the research/project. The student can then register for the section of CSE 593 that corresponds to that faculty member.

At most 2 credits of CSE 593 can be used towards the 31 credits required for the M.S. degree. But the students may register for additional credits of CSE 593 as appropriate. However, this additional credits cannot be used for graduation requirements.

5.8 M.S. Proficiency Requirements

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

The normal route for fulfilling a proficiency is to take the corresponding undergraduate course. However, directly registering for undergraduate courses does not count towards full-time status. This issue is particularly important for students who are required to have full-time status, such as international students or students getting financial support. To accommodate this special circumstance, Graduate Program Director will permit a student to take an undergraduate course (as per their proficiency plan) using the graduate course designation CSE 587 (Proficiency Requirement in Computer Science).

Credits for CSE 587 will count towards the student’s full-time status requirement. Note the following points for the use of CSE 587:

- CSE 587 is only 2 credits, while the corresponding undergraduate course is 3 credits.
- The syllabus of the undergraduate course and/its instructor will 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 course (at SUNY Korea, Stony Brook University, or elsewhere).
- A grade of B or better is needed in CSE 587 to satisfy a proficiency requirement.

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.

Credits for courses taken to fulfill the proficiencies, whether CSE 587 or other approved graduate course, can contribute a maximum of 4 credits (of the total 31 required) for M.S. graduation.

5.9 Switching from the M.S. to the Ph.D. Program

An M.S. student who wishes to advance to the Ph.D. program must apply formally for admission to the Ph.D. program like any other regular applicant. There is no automatic transfer mechanism. The student i) should have passed at least 2 Ph.D. qualifier courses before the application, and ii) should have identified a faculty member who is willing to advise him/her for Ph.D. research. Once admitted to the Ph.D. program, courses taken in the M.S. program can be used for satisfying requirements for the Ph.D. program.

6 Requirements for the Ph.D. Degree

6.1 Dissertation Advisor

A student in the Ph.D. program must select a dissertation advisor by the end of their *second* semester in the program. The dissertation advisor must be a core faculty member in the Computer Science Department at SUNY Korea. The role of the *dissertation advisor* is to guide the student through the Ph.D. 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.

On selection of an advisor, a form must be filled out by both the advisor and the student, and submitted to the Graduate Director. Changing an advisor requires 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.

6.2 Ph.D. Qualifier

The purpose of Ph.D. qualifier is to ensure that the student has acquired an appropriate breadth in major computer science areas. To meet the qualifier requirement, Ph.D. students must pass a total of *five* graduate courses with a grade of *A– or better*, with the following conditions:

1. *At least 4 courses* from the list below, covering *at least 3 areas*.

Theory

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

Software

- CSE 504: Compiler Design
- CSE 505: Computing with Logic
- CSE 526: Principles Programming Languages
- CSE 532: Theory of Database Systems
- CSE 535: Asynchronous Systems

Systems

- CSE 502: Computer Architecture
- CSE 506: Operating Systems
- CSE 508: Network Security
- CSE 509: Computer System Security
- CSE 534: Fundamentals of Computer Networks

Intelligent and Information Systems

- CSE 519: Data Science Fundamentals
- CSE 527: Introduction to Computer Vision
- CSE 528: Computer Graphics
- CSE 537: Artificial Intelligence
- CSE 564: Visualization
- CSE 628: Natural Language Processing

2. One non-generic graduate lecture course, more specifically:

- (a) Any CSE 5xx course *except*: CSE 500, 516, 517, 522, 523, 524, 587, 590–599.
- (b) Any course from the set CSE 601–638.

All qualifier courses must be completed within two years after joining the program as a full-time Ph.D. 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 they can before advancing to candidacy (see Section 6.5). We also recommend the students to complete the qualifier requirement as early as possible, so that they can take other graduate courses without additional pressure.

6.3 Course Requirements

By the time of graduation, each student is required to accumulate at least 20 credits of regular lecture courses, internship, special topics courses or seminars. At most 5 credits of seminars and internship can be included in the 20 credits required for graduation; generic courses, such as CSE 593, CSE 587, CSE 600, CSE 698, and CSE 699, **cannot** be included. In addition, the following requirements should be noted:

- *M.S.-specific courses*. Students in the Ph.D. program may *not* enroll in CSE 522, CSE 523/524 or CSE 599. These courses are specific to the M.S. program.
- *On-going research seminar*. The student must register and complete two semesters of CSE 600 in their first year in the Ph.D. program. However, credits earned in this course cannot be used towards the 20 credits required for the Ph.D. program.
- *Internship, CSE 696*. At most two credits of Internship in Research can be counted towards the 20 credits required for the Ph.D. program.
- *Dissertation Research, CSE 699*. The Dissertation Research course can be taken *only* by Ph.D. students who have been advanced to candidacy (have G5 status). Prior to the advancement, students conduct research and participate in projects by taking CSE 593: Independent study. G4 students can register for up to 9 credits of CSE 593 in any semester. G3 students can register for only up to 3 credits of CSE 593.
- *Teaching requirement*. University policy requires that all doctoral students participate in an appropriately structured teaching practicum. This can be CSE 698 in conjunction with a teaching assistantship (TA) in the first year.

Some Ph.D. students might also be advised by the Graduate Program Director to take an undergraduate course under the CSE 587 designation as part of their preparation for the Ph.D. qualifier and/or proficiency requirements. However, this is considered preparatory and CSE 587 is not counted towards the Ph.D. course requirements. See Section 5.8 for information on taking undergraduate courses under CSE 587. Note that registration in CSE 587 is only with permission of the Graduate Program Director.

6.4 Research Proficiency Examination (RPE)

The purpose of the Research Proficiency Examination is to ascertain the student's preparation to undertake a significant original research investigation. The student must pass the RPE within two years after joining the program as a full-time Ph.D. student. 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 Ph.D. program. It should include the dissertation advisor and at least two other faculty members. At least one of these must be a core or affiliate faculty member of the Stony Brook Computer Science Department. The remaining committee members must be faculty members of the Computer Science Department at SUNY Korea. The advisor cannot chair the committee.

RPE Report. The student must submit a report, written in the form of a conference paper, which critically evaluates and integrates the current state of research relevant to the problem described in the abstract 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 to the Committee, describing the work, which will be followed by a session where the 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.

The student must inform the Graduate Secretary of the RPE date and the composition of the RPE committee at least **one week prior** to the examination. 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 (available from the departmental web site). The Committee as a whole can decide three outcomes: *pass*, *retake*, *fail*. A student who receives a grade of *fail* is dismissed from the Ph.D. program. A student who receives a grade of *retake* must retake the examination within 30 days. If, on retaking the examination, the student does not pass, the student is dismissed from the Ph.D. program. A student who receives a grade of *pass* has fulfilled the research proficiency requirement.

6.5 Advancement to Candidacy and G5 Status

A student files to advance to candidacy after meeting the qualifier requirements and passing the RPE. This status, also called *G5*, is conferred by the Dean of the Graduate School upon recommendation of the Department. Note that unlike the change from G3 to G4, the change from G4 to G5 is not automatic — the student must request to be advanced to candidacy by notifying the Computer Science Graduate Secretary.

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 G5 student would normally register for 9 credits of CSE 699, CSE 700 or CSE 701, as appropriate. It is possible, although rare, to replace part of these 9 credits by a regular course. However, this requires prior approval of the Graduate Director.

Failure to complete the research proficiency examination within the specified time frame and obtaining the G5 status is considered evidence of unsatisfactory progress. In particular, *students whose status remains at the G4 level beyond 4 semesters since being admitted into the Ph.D. program will lose the tuition waiver and may be dismissed from the Ph.D. program.*

6.6 Research Assessment Meetings

All Ph.D. students who have not yet met qualifier requirements and passed their RPEs, or who do not have an advisor, will be reviewed each semester, in periodic *Research Assessment Meetings*. This review is conducted by the entire faculty, which determines the status of each student. This review is comprehensive, and includes at least the following items (in no particular order):

- Qualifier courses taken and passed with A– or better.
- All other courses taken, grades received, and GPAs.
- Performance as Teaching Assistant.
- Research productivity: publications, talks, software, systems, etc.
- Faculty input, especially from the advisor.
- 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 folder. A student can be placed in one of two categories:

In Good Standing: The student has performed well in the previous semester and may continue in the Ph.D. program for one more semester.

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

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

6.7 Thesis Proposal

After the student has completed all requirements described earlier, and with the approval of the student’s dissertation advisor, the student must present a thesis proposal. The purpose of the thesis proposal is to assess student’s progress towards the Ph.D. thesis. The assessment will be done by a thesis committee. The student should complete all aspects of the thesis proposal requirement within two years from the time of passing RPE. Failure to fulfill this requirement by that time without a formal extension may be considered evidence of unsatisfactory progress towards the Ph.D. degree.

Thesis Committee. The Thesis Committee should include at least three members from the Computer Science Department: The dissertation advisor, a committee chairperson (who cannot be the advisor), and another member (who is not the advisor). At least one of these must be a core or affiliate faculty member of the Stony Brook Computer Science Department. The remaining committee members must be faculty members of the Computer Science Department at SUNY Korea. It may optionally include one or more members from outside of the Department or University. Typically, members of the RPE committee proceed to serve on the Thesis Committee.

Thesis Proposal Report. A written thesis proposal must be submitted to the student's Thesis 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 Ph.D. level.

Oral Presentation of Thesis Proposal. The student must present the thesis proposal as a seminar presentation to the Thesis Committee. The student should inform the Graduate Secretary of the date of the thesis proposal oral presentation, as well as the composition of the thesis committee, at least one week before the date of the presentation.

The presentation is not open to the general university community. It is limited to members of the committee, invited computer science faculty, and invited graduate students. Faculty members are free to question the student on any topics that they feel are in any way relevant to the student's objectives and career preparation.

Most questions, however will be directed towards verifying the student's grasp of the intended specialty in depth. The student will be expected to show complete familiarity with the current and past literature of this area. The findings of the committee will be communicated to the student as soon as possible.

6.8 Ph.D. Dissertation and Defense

An important requirement of the Ph.D. 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 composition of this committee is the same as that of the Thesis Committee, except that the participation of an outside member is mandatory. Typically members of the Thesis Committee proceed to serve on the Dissertation Examination Committee.

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 Secretary at least **five weeks prior** to the defense.

Dissertation Defense. The dissertation must be orally defended before a 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 faculty members and graduate students. 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 web site <http://www.grad.stonybrook.edu>). This form must be sent to the Graduate Program Director by email; the director then forwards the form to the Graduate School, which makes a public announcement of the event.

6.9 Satisfactory Progress and Time Limit

A student who does not meet the target dates for the Ph.D. 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 Ph.D. degree within seven years after completing 24 credit hours of graduate courses in the Department of Computer Science at SUNY Korea. 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.

6.10 Part Time Students

Students admitted into the Ph.D. program for part time study are bound by all the rules set out henceforth. In particular, part time students should adhere to the schedule for the Qualifying Examination, Research Proficiency Examination, and Thesis Proposal, as explained in Sections 6.2, 6.4, and 6.7, unless a different schedule has been approved in writing by the Graduate Director.

6.11 Obtaining an M.S. Degree on the Way to Ph.D.

A Ph.D. student who has completed the proficiency requirements, has passed the Ph.D. Qualifier and RPE, and has been engaged in at least one year full-time research beyond RPE, can apply for the M.S. degree provided that he/she has completed the 31 credits of requisite course work for the M.S. degree.

At most 9 credits of seminars (excluding CSE 600), special topics courses, or CSE 593 (Independent study) can be included in the required 31 credits. A student who has switched from the M.S. program to the Ph.D. program can in addition use the previously earned credits of CSE 523/524 towards the aforesaid 9 credits. These 9 credits together with the RPE are considered to be equivalent to the Thesis Option in the M.S. program. The remaining credits required for the M.S. degree must be satisfied based on credits from graduate course in computer science, subject to the restrictions stated in Section 5.

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

6.12 Typical Ph.D. Timeline

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

Complete the Advisor Selection form and submit to the Graduate Secretary.

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

For RPE:

- Submit the written RPE report to RPE committee at least one week before the oral presentation.
- Inform the Graduate Secretary of the composition of the RPE committee, and the date of RPE presentation, at least one week prior to the examination.

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

- Submit the written proposal report to thesis proposal committee at least one week before the oral presentation.

- Inform the Graduate Secretary of the composition of the thesis proposal committee committee, and the date of oral presentation, at least one week prior to the presentation.

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

- In the semester of graduation, register for at least 1 credit (non-Korean students still need to register full-time), and apply for graduation.
- Submit the thesis committee to the Graduate Secretary (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 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.

7 Financial Support

First year graduate students, Ph.D. students in particular, can be supported either by teaching assistantships or by research assistantships.

One of the research assistantships is a special fellowship by the MSIP (Ministry of Science, ICT and Future Planning), Korea, under the "IT Consilience Creative Program (ITCCP)" (NIPA-2013-H0203-13-1001) supervised by NIPA (National IT Industry Promotion Agency), which is available for some selected Ph.D. students with excellent research potential. This fellowship support is decided by the ITCCP Student Selection Committee after admission to the Ph.D. program.

Other research assistantships are used to support other Ph.D. students who are not supported by ITCCP and those whose teaching assistantship or ITCCP support has ended. Some M.S. students are also supported in this way and a number of support opportunities in other academic and administrative departments within the University generally become available to Computer Science students each year.

A student **must** be registered full time in order to receive a tuition scholarship. Registering but not attempting a course (receiving the NR grade) is treated the same way as if the course was never registered for.

A G5 student should normally register for 9 credits of dissertation research (CSE 699). If a student is performing research outside of Korea or the United States, he or she would register for 9 credits of CSE 701. G5 students are permitted to take other courses that are directly relevant to the dissertation they are writing, but only with previous approval from their Graduate Program Director. In these cases the courses must all be graduate level (500 or above) and the total number of credits must equal 9.

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. Likewise, the ITCCP support is active only for three years as long as it is available. Beyond these years, 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 to assist the faculty member in charge of the course to which the student 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 members lectures; answering students questions concerning the course work; proctoring examinations; preparing solutions; grading of examinations; correction of homework assignments; supervision of laboratory or recitation sections; holding regular office hours. A document that describes the responsibilities of a teaching assistant appears on the Web site (<http://www.cs.sunykorea.ac.kr/> (see under Graduate Programs/TA responsibilities)).

Students with teaching duties may register for CSE 698 (Practicum in Teaching) for up to 3 credits. The credits from CSE 698 do not fulfill department elective requirements, but do satisfy credit requirements for full time enrollment.

7.1 English Proficiency Requirements

All students whose native tongue is not English or have taken their higher education in a non-English speaking country must demonstrate proficiency in English, as described in 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 25 or above, or IELTS/SPEAK score of 7.5 or above, before being assigned to classroom or other teaching duties. Students who do not meet these requirements must take remedial courses ESL 591, ESL 596, or ESL 598 depending on their TOEFL/IELTS SPEAK scores. First year foreign 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 at SUNY Korea.

Students on assistantship who cannot fulfill their obligations will fail to 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 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 institution to gain valuable multi-cultural experiences of how computer science technology is developed and applied. The research visit is optional for M.S. students, whereas a 1-year research visit is required for Ph.D. 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 ends up graduating at SBU after having been there for at least two consecutive semesters will be able to apply for OPT. Even without subsequent graduation at SBU, a 2-semester residence at SBU affords the student the opportunity of a 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 31st of that year.
- For a visit starting in Spring: apply by September 30th 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 largely identical to the tuition and fees charged at SUNY Korea and will depend on how many credits the student is taking at Stony Brook. Students, Ph.D. 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.

8.1 Research Visit Requirements for M.S. Students

An M.S. 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 M.S. 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 the student plans to begin an Advanced Project at Stony Brook, the student needs to secure an advisor at Stony Brook or SUNY Korea before he or she gets 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 2nd 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 M.S. 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 he/she already has an M.S. 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 complete 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.

8.2 Research Visit Requirements for Ph.D. Students

A Ph.D. student is required to 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 students source of funding, i.e., research grants, scholarships, or personal funds.

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.
- Students are still required to acknowledge the funding support that they received while at SUNY Korea, e.g., ITCCP 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.