



Stony Brook University

MS in Computer Science

Program Orientation

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Computer Science Department

Important Departments/Units

- **Graduate Program, CS Department**

- C. R. Ramakrishnan (Graduate Program Director)
- Erez Zadok (Graduate Advisor, MS Program)
- Cindy Scalzo (Graduate Coordinator)
- Himanshu Gupta (Graduate Admissions Director)
- Lourdes Hartwell (Admissions Coordinator)

- **Graduate School**

- Broader support, policy making for all graduate programs in the university

- **Registrar and Bursar's Office**

- Enrollment and fees payment

- **Visa and Immigration Services (VIS)**



We have
NO
control!

Graduate Handbook and FAQ

- Describes everything you need know about MS/PhD program in CS.
- Easily available from the departmental web page. Go to Students → Graduate.
- Read the latest version: **Fall 2020 edition**
- Also, read the MS FAQ.

Read the above carefully.

Contents

- **Program Requirements and Standing**
- Credits and Immigration-Related Issues
- Registration for first semester
- Responsible Conduct
- Internship and Employment

Graduation Requirements

Fall 2020 Handbook describes your graduation requirements.

- This is your default set of requirements
 - At the time of graduation, you may choose a the requirements from a [more recent edition of the Handbook](#) (if anything has changed).
 - You cannot mix and match requirements from different years.
 - Generally there may be minor tweaks from year to year, but major changes are infrequent.



MS Program Overview

- **Credit Requirement**
 - At least 31 graduate credits (with restrictions)
- **Breadth Requirement**
 - 3 breadth courses from 4 areas.
- **Project Requirement**
 - Basic or advanced project
 - MS Thesis option
- **Graduate Course Requirement**
 - Minimum number of “lecture” courses
- **Good Standing Requirement**

Credit Requirement

- You need at least 31 “CSE” credits to graduate.
 - Most courses are 3 credits, but not all. So, need 10 courses plus some.
- Note: 31 credits are the *minimum*.



- **Grade of C or better** required to count a course for credit.
- Most common:
 - 8 lecture courses (24 credits)
 - Advanced project (6 credits)
 - Summer Internship (1 credit)

Breadth Requirement

Four breadth areas:

- Theory, Software, Systems, IIS.
- Each area has a list of 5-6 courses.
- *Complete at least 1 course **from 3 areas** with a grade of **C or better**.*



Theory Breadth

- 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 Breadth

- CSE 504: Compiler Design
- CSE 505: Computing with Logic
- CSE 526: Principles Programming Languages
- CSE 532: Theory of Database Systems
- CSE 535: Distributed Systems
 - Was renamed from “asynchronous systems”



Systems Breadth

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



Information and Intelligent Systems (IIS) Breadth

- CSE 519: Data Science Fundamentals
- CSE 527: Introduction to Computer Vision
- CSE 528: Computer Graphics
- CSE 537: Artificial Intelligence
- CSE 538: Natural Language Processing
- CSE 564: Visualization



Project Requirement

Three MS options:

- **Advanced Project Option**

2-semester sequence of a guided research project.

- **Thesis Option**

2+ semesters of in-depth research project with a written thesis and a thesis defense.

- **Basic Project Option**

1-semester project linked to a specific course.



Advanced Project Option

Must do a 2 course sequence CSE 523/524
(Advanced Project in Computer Science I and II).

- Two semester sequence on an individualized project under a faculty member.
- **Cannot change advisor in midstream. If there is a change, must start afresh.**
- Generally, CSE 593 (Independent Study) with the advisor is recommended before CSE 523.

Thesis Option

- Must do a total of 6-9 credits of CSE 599 (MS Thesis).
- Must write and defend the thesis.
- A 3-member committee must approve the thesis.
 - Thesis Advisor is a part of the committee.
- Thesis must be submitted to the Graduate School (which has hard deadlines).

Basic Project Option

- Must take CSE 522 (Basic Project in Computer Science).
- CSE 522 is a “cover” course for a regular project-heavy CS course (a “covered” course, e.g. CSE 506).
 - Students register for CSE 522, but actually attend the “covered” course.
 - Instructor may impose requirements above and beyond those of the “covered” course.
 - These courses are announced every semester via CSE 522 web page.
- CSE 522 may be used to satisfy breadth requirement via the “covered” course.

Comparison Between Options

- **Advanced Project:** Guided project over 2 semesters (6 credits).
 - Usually has a mixture of basic/applied research, and development under close supervision of an advisor.
- **Thesis:** basic/applied research over 2-3 semesters (6-9 credits).
 - “Research Apprenticeship” under the supervision of an advisor that usually leads to a strong publication.
 - Ideal for students pursuing careers in research (e.g., PhD).
- **Basic Project:** Primarily coursework based. (3 credits)
 - *No individual directed project.*
 - Ideal for students who did not/could not find a faculty advisor or want to take more lecture courses.

Moving Between Options

- No need to declare option in advance.
- Just need to fall under one option at the time of graduation.
- Courses specific to another option may not be counted towards your project-option requirements.
 - But will count towards 31 credits for graduation
- Switching project options:
 - **Same adviser:** need adviser and GAA/GPD approval, if you want credits from previous project option to count towards new option.
 - **Different adviser:** need new adviser and GAA/GPD approval. Past credits don't count toward project option.

Graduate Course Requirement

Project Option	# Lecture Courses	Project course(s)	Remaining Credits for 31
Basic Project	8 (24 credits)	CSE 522 (3 credits)	4
Advanced Project	7 (21 credits)	CSE 523/524 (6 credits)	4
MS Thesis	6 (18 credits)	CSE 599 (6-9 credits)	4-7

- Lecture course is:
 - Any 500-level course **except** CSE 500, 522, 523/524, 587, 593, 596, and 599 (e.g., specialty/project courses)
 - Any CSE 601-638 (3-credit PhD-level courses)
 - At most 3 credits of CSE 698 (Teaching Practicum)
- Remaining credits can be satisfied by any CSE course

Proficiencies (Pre-requisites)

- Some strong students with non-CS undergrad are admitted to the program with **additional** proficiency requirements.
 - These requirements must be satisfied by the time of graduation.
 - Often have to take several undergraduate courses here
 - Grade of 'B' or better required in cover course (CSE 587)
- Special One-on-One advising for such students
 - **Mandatory orientation:** after this orientation.
 - As needed: meeting slots with Prof. Zadok (GAA)
- Bring your Admission Letter, Transcript, Syllabus, and Resume for the orientation and advising sessions.

How Many Semesters/Courses?

- For most, an MS is a terminal (last) degree
 - Last opportunity to take certain courses
- This MS program can be completed in 3 semesters
- Four semesters effectively required for MS Thesis option and students with proficiencies (pre-reqs)
 - Don't overload yourself (esp. in 1st semester)!
 - Don't take more than 12 credits "just to save tuition"
- Taking extra courses, perhaps staying 4th term, has small impact on time and cost... relative to industry salaries.
- Big difference between low-end and high-end MS jobs!
 - Salaries, job satisfaction, and lifetime earning

Good Standing Requirement

- At least 3.0 overall GPA to maintain good standing.
 - Min. grade for a course to count for graduation is **C**
 - **GPA less than 3.0:**
 - **Academic Probation (can be kicked out of SBU)**
 - **Cannot graduate**
 - **No CPT/Internships**
- No pending “I” (incomplete) grades
- Good standing is subject to maintaining ethical standards expected by the program.
 - E.g., no renegeing on lab/internship/job offers.
- International students: must take a full-time load and be in good standing.

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Grad Level and 'Full Time'

- **Level:**
 - G1 when admitted.
 - G2 after completion of 24 graduate credits
 - Determined by registrar, count all credits (even a C- grade)
 - 2 semesters in practice
- **To be considered full-time**
 - G1: must be registered for at least 12 grad credits.
 - G2: must be registered for at least 9 grad credits.
- **The following students must be full-time:**
 - International students
 - Students getting assistantships (GA/TA/RA)
 - Students in university housing

Registration Requirements

- Full time registration requirement: G1: 12 credits; G2: 9 credits
 - Unrelated to what credits are counted towards the graduation requirement. E.g.,
 - Grades lower than C
 - (U)nsatisfactory for pass/fail courses
 - Course repeated for replacing a grade (rarely approved)
- “Underload” (*part-time registration*) possible *only* in the graduating (final) semester.
 - Special petition, risky if don’t pass course(s).

Underload (save tuition)

Applies only to International Students

- In your final (graduating) semester, you may **petition** to be considered as **full-time**, even when registering for **< 9 credits**.
- Example: a student has 25 credits in first two semesters + summer. Can apply to “underload” with 6 credits.
- When petitioning for underload, courses registered must be sufficient for graduation.
- Underload petitions are reviewed by the VIS office.
- If something prevents an underloading student from graduating that semester, **they cannot continue** and have to return to their home country (without a degree!)
 - This is an immigration regulation.
 - If you’re caught in this situation we cannot do anything except feel sorry for you. But that does not materially change the situation.

CSE 698 -- TAing (save tuition)

- Students can take CSE698 (Teaching Practicum) for credit
- Tuition free: any credit over 12 (G1 or G2)
- Limited to max 3 credits (1 credit == 4 hrs/week)
- Qualifications:
 - New student with excellent UG grades
 - Existing student who took course and aced it
- Example:
 - Semester 1: 12 credits + 1 credit of CSE 698
 - Semester 2: 12 credits + 1 credit of CSE 698
 - Summer internship: 1 credit
 - Semester 3 (final): one 3-credit course + 1 credit of CSE 698 (underload of 4)
 - Saved 2 credits of tuition overall
 - 3 credits of CSE 698 can count as one “lecture course”

Internships

- Note: internship is not a requirement.
- You can get credit for internships in industry (CSE-596 or CSE-597).
 - Register in your project/thesis advisor's section.
- For international students, such internships can be done as a part of Curricular Practical Training (CPT).
 - To be eligible for CPT, you must have been at Stony Brook for at least 2 regular semesters, be in good standing, and not have pending ("I") grades.
[This applies to underload applications as well]
- CPTs can now be approved for summer, fall, or spring semesters (repeated too)
 - See <https://www3.cs.stonybrook.edu/~ezk/grad-res/index.html#ms>

Which Credits Count for ...?

For...	This counts
Graduation (under CS control)	<ul style="list-style-type: none">• Grade C or better (B or better in CSE-587), subject to breadth and project limits• Grade 'S' for pass/fail courses.• CSE courses only (other than 2 approved AMS courses)
GPA	<ul style="list-style-type: none">• All courses with posted grades (including C- and F).• Pass/fail courses are not counted.
Full time status	Taking 12+ credits if G1; taking 9+ credits if G2; doing "underload" if last/graduating semester.
G1/G2 status	All courses with posted grades other than F, U, or I (includes C-)
Tuition	Not charged for credits above 12 in any semester (even if you're in underload or G2 status).

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Important Dates

Be familiar with graduate calendar

(www.stonybrook.edu → > Students → Useful Links → Academic Calendars)

- **Aug. 24:** first day of classes
- **Aug. 30:** drop deadline (w/o tuition penalty)
- **Sep. 4:** add/drop/swap deadline (drops later show a ‘W’ grade on transcript)
- **Sep. 8-14**– swap via petition only (rarely approved)
- Watch for waitlist movement near drop deadline
 - get off waitlists if you do not intend to take a class!
- We (in this department) do not control tuition and other fees!

Full Classes

- Classes may be full now, some may open up during the first week of classes (see next slide).
- New graduate handbook offers more course flexibility.
- Attend the first lecture of courses you want to take.
 - If the professor is collecting a list of students wanting to add into the course, give your name.
 - Based on availability, we will permit a subset of these students to add into the course.
 - Priority is for PhD and senior MS students
 - **Petitioning to Grad Director/Adviser/Instructor is of no use.**

Expected Availability of Seats

- Many classes are full; some students have registered for more courses than they intend to take.
- **Advising Hold** if you have over-registered:
 - You will not be able to lower the load later!
- Over-registered if your #lecture courses exceeds:

Your Status:	On 1 st day of classes (9am)	On 3 rd day of classes (9am)
G1	>4	>4
G2	>3	>3 (or underload amount)

- We expect additional seats to open in various classes up in first few days of classes.

Registration Decisions

- For most students, it is best to take
 - at least 2 breadth courses and
 - at least 1 other course in the first semester.
 - Consider CSE 593 (Independent Study) to lighten the load
- If you have proficiencies (pre-reqs) to satisfy
 - Finish them as early as possible, within 2 semesters.
 - [Attend special orientation or see GAA (Prof. Zadok)]
- If you want to do Advanced Project or Thesis
 - Get advanced exposure in the first semester.
 - Also, attend some research seminars.

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RCRS

Responsible Conduct in Research & Scholarship

- Federal funding agencies require every researcher to undergo training and earn RCRS credits.
- Such training is especially critical when handling sensitive data (human subjects, health and social media data)
 - No matter whether the research is federally funded or not.
- **University is adding steps so every graduate student appointed as RA is appropriately trained.**
 - We are setting up procedures within our department to help graduate RAs trained (e.g., CSE600, this orientation).
 - When you're appointed, you'll get email from from ResearchCompliance@cs.stonybrook.edu with instructions.
 - RCRS will become a part of “Good Standing” requirement.

Academic Dishonesty [1 of 3]

- Do your own work for all exams and assigned class work.
- Do not copy from anywhere, discuss with anybody, or solve problems in group.
 - Unless specifically allowed by an explicit class policy.
 - **Check with instructor on what is allowed** in looking for solutions (e.g., github). If allowed, cite sources where you got help.
- Guard your work/computer so that others cannot copy.

Academic Dishonesty [2 of 3]

- **Serious consequences:**
 - Loss of grade: Many profs will give 'F' in the course.
 - Very hard to recover from low GPA in first semester.
 - Possible loss of "good standing".
 - Bad GPA, no CPT, no underload
 - Possible dismissal from program
 - With subsequent problems with visa status
- **Every year, a few students face serious career difficulties due to academic dishonesty.**

Academic Dishonesty [3 of 3]

- Do not be influenced by the fact somebody else didn't get caught.
- **Dishonesty may be discovered much later than the act itself.**
- If you are an international student, be mindful of cultural differences.
 - What may be acceptable in your previous university could be considered 'dishonesty' in a US university.
 - **When in doubt, ask the professor.**
 - **Ignorance of rules is not a valid defense.**

Research Misconduct

- **Plagiarism**

- Example: copy from somebody else's paper and use it as part/whole of your project report, thesis.

- **Falsification**

- Fabrication: Make up data, results.
- Manipulation: Manipulate an experiment to hide actual performance and to show what you want.
- Obfuscation: Hide critical facts, but reveal some others.

- **Serious consequences on your graduate study.**

Possibilities exist for retraction of degree even after graduation.

- If you feel pressured, talk to advisor or graduate program staff.

Professional Misconduct

- **Accepting an internship/job offer (via campus career center or otherwise), or accepting an offer to join a research lab, and then turning it down later:**
“reneging” on an offer.
 - Reflects poorly on you as well as the department
 - Employers may not come for campus interviews for future students.
 - Blacklisted students and departments.
- **False representation in resume for jobs/internships.**
 - Serious consequences on your graduate study. **Possibilities exist for retraction of degree even after graduation.**

Ethical Violations: Procedures

Violations reported to Program Director.

- Accusations and penalties for violations may be appealed to special graduate committee
 - Formal proceedings, judged by a committee of 2 graduate students and 2 faculty
 - Recommendations sent to Program Director
- For serious violations, finding of guilt may lead to dismissal from program.
- Minor violations recorded in student's file.
 - These records are destroyed at graduation time if there are no other violations.
 - Second violation is grounds for dismissal from the program.

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 - Separate presentation, early CSE 600 talk of semester by Zadok

Internships and Employment

- Separate presentation (Zadok)
 - Usually at start of semester (announcement to all grads)
- CPT: Curricular practical Training
 - Apply via VIS office, approved by dept.
 - Used for summer internships, repeatable summers
 - Need letter before/after internship to summarize work (ensure it is an integral part of your education)
- OPT: Optional Practical Training
 - Apply via VIS office, approved by dept.
 - Most often used for first job after graduating
 - Can be used only once
 - Limit of 12 months since approval (then need proper work visa)

Next Steps

- **Very important:**

- Get departmental email id (xxx@cs.stonybrook.edu)
 - Activate Piazza.com “Grad” forum
- ... which is on grads@cs.stonybrook.edu email list.
- Important messages sent to these addresses. No excuse for not reading them.
- Review Graduate Handbook and FAQs.
- Be familiar with registration calendar.
- Ethics and professional responsibility:
 - Act ethically in coursework and research
 - Watch out for RCRS requirements coming soon.

Other issues not yet discussed [1]

- Transfer from MS to Ph.D. program
 - Review Handbook and speak to faculty
 - Courses done during MS can be counted for PhD qualifiers
 - Admission will require strong recommendations from SB faculty

Other issues not yet discussed [2]

- TA
 - Few students are appointed as Part Time TAs or graders
 - Responsibilities are generally limited to grading, but varies by course
 - Appointment is by invitation only; resumes and mails sent without solicitation will not be considered
 - Very few opportunities this semester, but keep this in mind for subsequent semesters
 - CSE 698 (Teaching Practicum) possible up to 3 credits
- Anything else
 - See Handbook

Questions?