Stony Brook University

MS Program

Orientation

C. R. Ramakrishnan, Graduate Program Director
Erez Zadok, Graduate Program Advisor
Cindy Scalzo, Graduate Coordinator

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)
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: Spring 2021 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

Spring 2021 Handbook describes your graduation requirements.

• This is your default set of requirements
  • At the time of graduation, you may choose the requirements from a more recent edition of the Handbook (if anything has changed).
  • Covid19: you can choose an older handbook when originally admitted
  • 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
  • At least one course from each of 3 breadth 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

Three breadth areas:

- Theory, Systems, and Information and Intelligent Systems
- Each area has a list of 7-8 courses.

- Complete at least 1 course from each areas with a grade of C or better.
Theory Breadth

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

• CSE 502: Computer Architecture
• CSE 504: Compiler Design
• CSE 506: Operating Systems
• CSE 508: Network Security
• CSE 509: Computer System Security
• CSE 532: Theory of Database Systems
• CSE 534: Fundamentals of Computer Networks
• CSE 535: Distributed Systems
Information and Intelligent Systems (IIS) Breadth

- CSE 505: Computing with Logic
- 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

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

• Lecture course is:
  • Any 500-level course **except** CSE 500, 522, 523/524, 581-584, 587, 593, 596, and 599 (e.g., specialty/project courses); can’t use bridge courses as “lecture”
  • Any CSE 601-638 (3-credit PhD-level courses)
  • At 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)
    - Grade of ‘C’ or better for grad-level bridge courses

- 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 \textbf{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 reneging on lab/internship/job offers, cheating on employer tests.

• International students: must take a full-time load
• Good standing needed for travel and visa related transactions
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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 CSE-698 (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/ms/index.html
Which Credits Count for ...?

<table>
<thead>
<tr>
<th>For...</th>
<th>This counts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduation (under CS control)</td>
<td>• Grade C or better (B or better in CSE-587), subject to breadth and project limits</td>
</tr>
<tr>
<td></td>
<td>• Grade ‘S’ for pass/fail courses.</td>
</tr>
<tr>
<td></td>
<td>• CSE courses only (other than 2 approved non-CSE courses)</td>
</tr>
<tr>
<td>GPA</td>
<td>• All courses with posted grades (including C- and F).</td>
</tr>
<tr>
<td></td>
<td>• Pass/fail courses are not counted.</td>
</tr>
<tr>
<td>Full time status</td>
<td>Taking 12+ credits if G1; taking 9+ credits if G2; doing “underload” if last/graduating semester.</td>
</tr>
<tr>
<td>G1/G2 status</td>
<td>All courses with posted grades other than F, U, or I (includes C-)</td>
</tr>
<tr>
<td>Tuition</td>
<td>Not charged for credits above 12 in any semester (even if you're in underload or G2 status).</td>
</tr>
</tbody>
</table>
COVID19 issues

- Vaccines to students
  - Yes, but timeline and priorities are unknown at this time
  - SBU is a POD (Point of Distribution)
- Online or Hybrid
  - New international students should take exactly 1 course (3 credits) marked as “hybrid”; rest of credits from “online” courses
  - “Hybrid” means
    - Some lectures/sessions will require your presence physically on campus
      - Will be detailed in course syllabus: TBD
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Important Dates

Be familiar with graduate calendar
(www.stonybrook.edu → > Students → Useful Links → Academic Calendars)

• Feb. 1: first day of classes
• Feb. 5-11: waitlist processing period
• Feb. 12 @4pm: add/drop/swap deadline (drops later show a ‘W’ grade on transcript)
• Feb. 13-19: 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!
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.
  • Cheating on employer programming exams
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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• Internship and Employment
  • Separate presentation, usually early CSE 600 talk of semester by Zadok (past recordings available)
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](mailto:xxx@cs.stonybrook.edu))
    • And activate your piazza.com “Grad” forum invitation
  • … which is on [grads@cs.stonybrook.edu](mailto: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?