MS Program
Orientation

C. R. Ramakrishnan, Graduate Program Director
Erez Zadok, Graduate Program Advisor
gradadvising@cs, Graduate Coordinator
Computer Science Department
Important Departments/Units

• **Graduate Program, CS Department**
  • C. R. Ramakrishnan (Graduate Program Director)
  • Erez Zadok (Graduate Advisor, MS Program)
  • gradadvising@cs (Graduate Coordinator, Kenna O'Leary)
  • 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 of the handbook!

• 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

Latest 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).
  • 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 525: Robotics
• 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 such as 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, 580-589, 593, 596-599 (e.g., specialty/project courses); can’t use bridge courses as “lecture”
  - Any CSE 601-638 (3-credit PhD-level courses)
  - Taking 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 advising for such students
  • Special orientation: usually right 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 3-4 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, lifetime earning, stability, and more.
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 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)

• To be considered full-time
  • G1/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/G2: 9 credits
  • Unrelated to whether courses are passed or not
  • Or if you repeat a course

• “Underload” (part-time registration) possible only in the graduating (final) semester.
  • Special petition, risky if don’t pass course(s).
Underload (saves tuition)
Applies only to all students (domestic & international)

• In your final (graduating) semester, you may petition to be considered as full-time, even when registering for < 9 credits.

• Example: a student has 28 credits in first three semesters + summer. Can apply to “underload” with 3 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 (for international students)
  • Also must be f/t to stay in university dormitories or hold on-campus job
  • If you’re caught in this situation we cannot do anything to help you!
CSE 698 – TAing

• Students can apply to take CSE-698 (Teaching Practicum) for credit
• Limited to max 3 credits (expected load 10 hrs/week)
  • Can take 1-3 credits per semester
  • Usually taken as 3 credits per semester
    • You may choose to register for fewer credits but workload remains the same.
  • 3 such credits will count as a “lecture course”
    • Only once (e.g., you don’t get 2 lecture courses if you have 6 TA credits)
• Qualifications:
  • New student with excellent UG grades
  • Existing student who took a grad course and aced it, or did well TAing in prior semesters
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 and Piazza
## Which Credits Count for ...?

<table>
<thead>
<tr>
<th>For...</th>
<th>This counts</th>
</tr>
</thead>
</table>
| Graduation (under CS control) | • 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 (and a few approved non-CSE courses) |
| GPA                   | • All courses with posted grades (including C- and F)  
• Pass/fail courses and retakes are not counted |
| Full time status      | • Taking 9+ credits  
• Doing “underload” if last/graduating semester. |
| G1/G2 status          | • All courses with posted grades (including C-) other than F, U, or I |
| Tuition               | • Not charged for credits above 12 in any semester (even if you're in underload or G2 status) |
## How Many Credits Per Semester?

<table>
<thead>
<tr>
<th>Admit Term</th>
<th>Fall (CY1)</th>
<th>Spring (CY2)</th>
<th>Summer (CY2)</th>
<th>Fall (CY2)</th>
<th>Spring (CY3)</th>
<th>Summer (CY3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall (v1)</td>
<td>9</td>
<td>9</td>
<td>1</td>
<td>9</td>
<td>3</td>
<td>(underload)</td>
</tr>
<tr>
<td>Fall (v2)</td>
<td>9</td>
<td>12</td>
<td>1</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring (v1)</td>
<td>N/A</td>
<td>9</td>
<td>4</td>
<td>9</td>
<td>9</td>
<td>(possible internship)</td>
</tr>
<tr>
<td>Spring (v2)</td>
<td>N/A</td>
<td>9</td>
<td>0-3</td>
<td>9</td>
<td>9</td>
<td>(possible internship)</td>
</tr>
</tbody>
</table>

Note: 
- (underload) indicates a reduced workload.
- N/A indicates not applicable or not specified.
- 1-4 (underload) indicates a range of underload credits.
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Important Dates

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

• Find out first day of classes (late August for Falls, Late Jan for Springs)
• 3-5 days later: waitlist processing period ends
• Week after classes start: add/drop/swap deadline (drops later show a ‘W’ grade on transcript)
• A week later: 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!
  • Or use the “swap-if” option (see details on Piazza)
• Can’t register for more than 12 credits till Friday before classes begin
  • Then it goes up to 18 credits max (careful if you get auto-registered from waitlists)

• We (in CS dept.) do not control tuition and other fees!

• Exact dates may change. Check Registrar’s deadlines yourself online!
First Term 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)
  • Consider courses in areas you’re familiar with (e.g., industry)
  • Do not waste time interviewing for internships in 1st semester

• 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 (e.g., Indep. Study).
  • Also, attend some research seminars.
Study Strategies

• This MS program is more challenging than you’re used to:
  • Competing with other “top” students
  • Grad school is harder than undergrad
  • Industry demands exceptional R&D skills

• Start on assignments as soon as they are released
• Keep stable sleep/wakeup schedules all week
• Ensure you have a quiet study environment
• Study for 1-2 hours, then take a 10-15 minute break, resume
• Avoid distractions: internships interviews, parties, trips
• Seek help sooner rather than later!
  • Instructional staff and TAs
  • Academic advisers
  • Health and psychological services
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• 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., CSE-600, 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:
  • Months of “limbo” until charges are adjudicated
  • 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/internship, 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 past could be considered ‘dishonesty’ in a U.S. 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 Graduate 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, 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)
  • Review presentation before you consider any internship offers!

• CPT: Curricular Practical Training
  • Apply via VIS office, approved by dept., then VIS again
  • 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., then VIS again
  • Most often used for first job after graduating
  • Can be used only once, must start job 90 days from OPT approval
  • Limit of 12 months since approval (then need proper work visa)
Next Steps

• Very important:
  • Get departmental email id (xxx@cs.stonybrook.edu)
    • And activate your piazza.com “Grad” forum invitation
  • All grads should be on the 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 part-time paid graders
  • Appointment is by invitation only, via portal for application
  • Paid TA positions are generally not available to new students
  • Reserved for exceptional students
  • CSE-698 (Teaching Practicum) possible up to 3 credits

• Anything else
  • See Handbook, then check piazza posts, then ask on piazza
Questions?