



Stony Brook University

# MS Program Orientation

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C. R. Ramakrishnan, Graduate Program Director  
Erez Zadok, Graduate Program Advisor  
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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)
- 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)**



# 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

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, 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 1<sup>st</sup> semester)!
  - Don't take more than 12 credits "just to save tuition"
- Taking extra courses, perhaps staying 4<sup>th</sup> 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 renegeing 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 ...?

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

# How Many Credits Per Semester?

Admit Term	Fall (CY1)	Spring (CY2)	Summer (CY2)	Fall (CY2)	Spring (CY3)	Summer (CY3)
Fall (v1)	9	9	1 (internship)	9	3 (underload)	
Fall (v2)	9	12	1	9		
Spring (v1)	N/A	9	4	9	9 (possible internship)	
Spring (v2)	N/A	9	0-3	9	9 (possible internship)	1-4 (underload)

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# Important Dates

## Be familiar with graduate calendar

([www.stonybrook.edu](http://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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# 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., CSE-600, this orientation).
  - When you're appointed, you'll get email from from [ResearchCompliance@cs.stonybrook.edu](mailto: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: “renegeing” 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](mailto:xxx@cs.stonybrook.edu))
    - And activate your piazza.com “Grad” forum invitation
  - All grads should be on the [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 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?