Carnegie Mellon University

Doctoral Student Handbook

Academic Year 2026 – 2027

School of Computer Science
Software and Societal Systems Department

Doctoral Student Handbook

Degree Programs Covered by This Handbook:

Societal Computing

Societal Computing Joint Portugal Program

Societal Computing/EPP Joint Program

11.20.26

Table of Contents

SECTION 1: Welcome & Introduction 4
SECTION 2: Program Vision, Mission, and Values 5
2.1: Vision 5
2.2: Mission 5
2.3: Values 5
2.4: Ph.D. Community 6
Student Leadership-SC Faculty Meetings 6
Mutual Respect 6
Incidents of Discrimination or Harassment 6
SECTION 3: Degrees Offered 7
SECTION 4: Departmental Personnel 8
SECTION 5: Departmental Resources 9
5.1 Office Assignments 9
5.2 Copy Machines 9
5.3 S3D Reimbursement Process & Policies (Travel & Other) 9
5.4 Computing Equipment 12
5.5 Mailing Address (TCS Hall) 12
5.6 Reserving Conference room @ CMU 13
5.7 Keys 13
5.8 Purchasing and Reimbursement Procedures and Policies on Goods and Services 13
5.9 Department Office/Building Security, Repairs and Services 14
5.10 Department and/or College Graduate Student Organizations/Advisory Committee/Graduate Representatives: 14
5.11 Direct Deposit for Reimbursements 14
SECTION 6: Advising 14
6.1: Role of an Advisor and Advisor Assignments 14
6.2 Advisor/Advisee Collaboration 15
6.3: Review/Redress of Academic Issues 16
Faculty and Student Ombudspersons 16
SECTION 7: Doctoral Degree Requirements 16
7.1: Residency Requirements 16
7.2: Expected Timeline Estimates 17
7.3: Registration Process 18
7.4: Required Units for Degree Attainment 19

7.5 Core Courses..... 20
Societal Computing Practicum 17-994..... 20
7.6 Star Courses.....21
Four Areas:.....21
Approved Star Courses..... 21
Societal Computing: (12 Units).....21
Computational Thinking Skills: (12 Units).....22
Policy and Management (12 Units)..... 23
Statistics (12 Units).....23
7.7: Electives..... 24
36 Units Required.....24
7.8: Societal Computing Pre-Thesis 17-802 (6 Units)..... 24
7.9: Computational Thinking/Programming..... 24
7.10: Writing Skills..... 25
7.11: Speaking Proficiency..... 25
7.12: Portugal Curriculum.....26
7.13: Joint PhD degree in Societal Computing and Engineering and Public Policy..... 27
Process for Completing a Master's Degree en Route to the Ph.D. for SC/EPP Joint Students..... 30
Societal Computing/EPP Thesis Committee composition..... 30
7.14: Protocol for Evaluation of Transfer Credit..... 31
7.15: Protocol for Evaluation of Course Waiver.....31
This program does not accept transfer credit of courses taken outside of CMU.....31
7.16: Teaching Requirements/Opportunities..... 32
7.17: Research Requirements/Opportunities..... 35
7.18: Summer Internship Opportunities.....36
Summer Registration and Planning.....36
Internships During the Academic Year..... 37
International Students.....37
Internship Extensions..... 37
SECTION 8: Dissertation Preparation & Requirements..... 38
8.1: Ph.D. Dissertation.....38
8.2: Thesis Committee.....38
Thesis Committee Guidelines.....38
8.3: Proposal..... 39
8.4: PhD Criteria for Advancement to Candidacy.....40
8.5: PhD Defense..... 41
8.6: Proposal and Defense Logistics..... 42
8.7: Thesis Binding.....45
8.8: Offboarding Graduated Students.....46
Important Offboarding Information for Graduating Students..... 46

SECTION 9: Department Policies & Protocols.....47
9.1: Petition Procedures- for adding a course to current STAR list.....47
9.2: Department Policy for Withdrawing from a Course.....48
9.3: Master's Degree en route to a PhD Process and Requirements.....48
Requirements.....49
How to Request the Master's Degree.....49
Requesting a Master's Degree in Lieu of Completing the Ph.D.....49
9.4: PhD Student Work Hours, Vacations, and Time Off Expectations.....50
Regular Work Weeks.....50
University Holidays.....51
Expectations for Time Off.....51
Personal Issues.....52
Absences Due to Illness.....52
Civic Duties.....53
Bereavement and Similar Personal Events.....53
Birth or Adoption of a Child.....53
Leave of Absence.....53
SECTION 10: Grading & Evaluation.....54
10.1: Grading Scale/System.....54
10.2: Independent Study/Directed Research.....54
10.3: Doctoral Student Review-(DSR) Semi-Annual /Satisfactory Academic Standing.....54
Components and Indicators.....55
Outcomes and Recommendations.....55
10.4: Satisfactory Academic Standing.....56
SECTION 11: Funding & Financial Support.....56
11.1: Health Insurance Requirement.....56
Student Health Insurance (SHIP).....56
11.2: Additional Sources of Internal & External Financial Support.....57
11.3: Department Policy on Outside Employment.....57
11.4 Leave of Absence (LOA).....58
SECTION 12: Graduate Student Handbook.....59

SECTION 1: Welcome & Introduction

Welcome to the Societal Computing Ph.D. Program!

While this handbook is specific to your academic experience in the department, it is just one element of the Graduate Student Handbook Suite. There are several other resources within the suite that you should consult when needed:

- Societal Computing Program Handbook
- University-Wide Graduate Student Handbook (Office of Graduate & Postdoctoral Affairs)
- The Carnegie Mellon Student Handbook

Societal Computing is the branch of computer science concerned both with designing computational technology to shape tomorrow's digital world and with using computational methods to understand the societal challenges a digital world poses.

Our program stems from the recognition that there is an intimate and deep relationship between the design, deployment, and configuration of computing technologies on the one hand, and societal dynamics, goals, policies, and outcomes on the other. As more and more of our daily experiences are lived in and through computers and networks, computing technology shapes the landscape in which people socialize, conduct commerce, play, work, and communicate. It also gives rise to new risks and shapes the tools available to avoid or manage them.

The design choices for these digitized environments have profound consequences. They create behavioral possibilities for acting, knowing, and controlling our social and physical environment. They provide opportunities and de-facto policies, regulations, and norms that shape societies. They create data for understanding the digital world, but at a scale and speed not analyzable by today's methodologies.

This document is an informal description of the Societal Computing Ph.D. program; herein "we" refers to all the faculty and staff involved in the Ph.D. program. Currently, the Department head is Nicolas Christin nicolasc@andrew.cmu.edu, the Director of Societal Computing Ph.D. program is Bogdan Vasilescu bogdanv@andrew.cmu.edu , and the Ph.D. Program Managers are Connie Herold cherold@andrew.cmu.edu, and Alisha Roudebush aroudebu@andrew.cmu.edu.

SECTION 2: Program Vision, Mission, and Values

2.1: Vision

The Societal Computing program at Carnegie Mellon University will have a transformative impact on society through continual innovation in education, research, creativity, and entrepreneurship.

2.2: Mission

To create a transformative educational experience for students focused on deep disciplinary knowledge; problem solving; leadership, communication, and interpersonal skills; and personal health and well-being.

To cultivate a transformative university community committed to (a) attracting and retaining diverse, world-class talent; (b) creating a collaborative environment open to the free exchange of ideas, where research, creativity, innovation, and entrepreneurship can flourish; and (c) ensuring individuals can achieve their full potential.

To impact society in a transformative way — regionally, nationally, and globally — by engaging with partners outside the traditional borders of the university campus.

2.3: Values

The Societal Computing program is Carnegie Mellon University's response to this challenge.

We bring to bear a wide variety of tools and disciplines to discover the scientific principles and laws governing the relationship between the design of computing technology and the nature of digital society.

Traditional computer science is fundamental to this enterprise, but the multidimensional nature of the questions we address requires cross-disciplinary solutions. In our research and our educational programs, a common foundation is laid not only in current computer science methodologies but also in ideas drawn from sociology, psychology, economics, public policy, cultural studies, machine learning, sustainability, applied statistics, and ethics.

We are shaping an integrated, innovative discipline of Societal Computing that provides the tools, techniques, theories, and research methods to address societal issues and continue to make scientific progress in understanding the deep relationship between

computing technologies and the society inhabiting the digital landscape they comprise.

2.4: Ph.D. Community

We are committed to a strong sense of community within S3D as well as the School of Computer Science as a whole. Our community is one of the reasons many students choose to come here. We foster community spirit through close working relationships between students and advisors, among faculty, and among students. Many working relationships turn into friendships for life.

In practice, our students, faculty, and staff volunteer their time, energy, intellect, talent, and other skills to perform many of the tasks that keep our environment running smoothly. These efforts include organizing seminars, serving on departmental committees, grading for graduate courses, planning, and running social activities, giving tours, and hosting visitors. Our Societal Computing Ph.D. students have an impressive record of volunteer leadership not just within the program, but also at SCS and university levels.

Student Leadership-SC Faculty Meetings

An important part of our culture is that students have a voice and a vote in decisions about the Ph.D. community. In general, decisions regarding Ph.D. program policies are made by the Societal Computing Faculty Meetings. The committee is composed of societal computing faculty as well as two Ph.D. student representatives who serve staggered 2-year terms. Decisions in the committee are nearly always made by consensus, but the student representatives are voting members of the committee when consensus is unclear.

Mutual Respect

An essential aspect of our culture is mutual respect among students, faculty, and staff that are highly diverse, not only in terms of professional and research interests, but also in terms of gender, national origin, religion, sexual orientation, and other demographic characteristics. Words or actions that express discrimination, disrespect, intimidation, or harassment based on race, color, national origin, birth sex, gender identity, handicap or disability, age, sexual orientation, religion, creed, ancestry, belief, veteran status, or genetic information are not acceptable within our community. Any violations of these standards should be brought to the Ph.D. program director, Bogdan Vasilescu, Ph.D. Coordinator, Connie Herold, the ombudsperson for the program, or the Office of Student Affairs.

Incidents of Discrimination or Harassment

Our community places great value on mutual respect. However, if you witness an incident of discrimination based on gender, race, religion, or similar characteristics, it is important to

know what to do about it.

If you feel comfortable and safe responding to the discriminatory behavior in the moment, we encourage you to do that; such responses, especially from bystanders, reinforce our community standards and can start an educational dialog that leads to reconciliation and prevent similar incidents from occurring in the future.

We encourage you to talk with the Ph.D. program director, any faculty member, the student ombudsperson(s), the Ph.D. program coordinator, or someone in the Office of Student Affairs about any incidents you witness or hear about secondhand. Faculty members, student ombudspersons, and the Ph.D. program coordinator are responsible for forwarding such incidents to the Ph.D. program director (or, when the director has a conflict, to the faculty ombudsperson) for follow-up.

There are a wide range of behaviors that may be concerning; we can help you talk through them and then investigate to come to an understanding of whether there is a violation of community standards. If there is a violation, we will take it seriously and will take action according to the severity of the incident.

One-time incidents that are not very severe may be handled by a conversation with the individual engaged in the problematic behavior. Here, the primary goal is education about our community expectations, a discussion of how to ameliorate the damage caused by the discriminatory incident, and an understanding of the consequences if violations of community standards were to continue.

Individual or repeated incidents that are severe enough to have a significant negative impact on an individual or on our community will be reported to the Office of Student Affairs or the Office of Title IX Initiatives, which have a processor dealing with them. These more serious incidents, when perpetrated by a student, will also be discussed at the Doctoral Student Review meeting where consequences may be imposed such as required amelioration actions, an N-1 letter, or termination from the program.

SECTION 3: Degrees Offered

Societal Computing Ph.D. (Societal Computing Ph.D. Degree)

Societal Computing Dual Degree with Portugal Ph.D. (Societal Computing Ph.D. Degree)

Societal Computing and Engineering and Public Policy (Societal Computing and Engineering and Public Policy)

Note: Immigration Changes may impact an F-1 or J-1 student's ability to change their academic program, even if allowed to by the program. Students on F-1 or J-1 documents should proactively consult with OIE when considering a program change

SECTION 4: Departmental Personnel

Software and Societal Systems Department-S3D

Name/Title	Role/Interactions	Office	Contact Info
Nicolas Christin Department Head	The Department head is a key member of university leadership who helps shape the department's future. They work with faculty, students, and staff to establish a long-term vision for the department that aligns with the university's mission. They also serve as a liaison between the department and other units of the institution.	TCS 448	nicolasc@andrew.cmu.edu
Victoria Poprocky Administrative Assistant to Nicolas Christin, Department Head Monika De Reno, Deputy Director	Point of contact for Nicolas Christin and Monika De Reno.	TCS 443	poprocky@andrew.cmu.edu
Monika DeReno Deputy Director	Providing guidance in areas such as student learning and resource management.	TCS 414	monikade@andrew.cmu.edu
Bogdan Vasilescu Director of Societal Computing PhD Program	The director controls the vision of the program, provides high-level guidance to students and faculty, is involved in student evaluations and in resolving any program-level disputes.	TCS 326	vasilescu@cmu.edu
Connie Herold Programs Manager	The Program Manager oversees all aspects of the PhD Programs administration, including admissions, personal or professional conflicts, course and faculty concerns, and program management. Student Office Space assignments.	TCS 415	cherold@andrew.cmu.edu
Alisha Roudebush Academic Coordinator	Coordinates the PhD Programs. Helps with admission questions, registration, commencement, orientation and general program information.	TCS 415	aroudebu@andrew.cmu.edu
Helen Higgins Manager, Employment Processes for S3D	**Human Resources:** Please contact **Helen** with any questions regarding payroll, stipend payments, health insurance, employment paperwork, or other Human Resources-related matters.	TCS 446	hhiggins@andrew.cmu.edu
S3D SC Faculty	A list of SC PhD Faculty contact information may be found **online**.	TCS Hall and various	S3D SC Faculty

		other buildings	
S3D IT Services Team	S3D IT Services	TCS 432	s3d-help@andrew.cmu.edu
S3D Video Service Team	Video Technicians for S3D	TCS 246	S3D IT Services Team
Paul Stockhausen Senior Manager, SCS Building Facilities	Handles issues regarding facilities, furniture, electrical issues, and office/room access to space and maintenance.	GHC 4107	building@cs.cmu.edu SCS Building Facilities

SECTION 5: Departmental Resources

5.1 Office Assignments

It is departmental policy that no student in TCS will receive less than 40 square feet of space. For any questions regarding office assignments or office space in TCS please contact Connie Herold, Alisha Roudebush or S3D IT Services Team.

5.2 Copy Machines

Copy Machines are available on the third and fourth floor. To create a print account please refer to SCS Computing Facilities.

5.3 S3D Reimbursement Process & Policies (Travel & Other)

Please submit all **itemized** receipts and any other applicable travel documentation to your S3D administrator **as soon as possible** after your trip.

Information needed:

1) Which account is paying for these expenses (This should be an oracle string or name of the account (e.g. FRAS account, Amazon gift, etc.) If you don't know, copy your advisor on the email when submitting for reimbursement to the S3D administrator.

2) **Justification: Who/What/When/Where/Why (5Ws)** *Ex: Andrew Carnegie, S3D PhD student, attended the ICSE conference in Pittsburgh, PA January 1-5 to present accepted paper [Enter title of paper]*

3) **Receipts.** These should be itemized (showing all of the items purchased, not just the total). Acceptable receipts should show the date of purchase, the vendor, the itemized expenses, and last 4 digits of card used. When needed, a credit card statement can work for proof of purchase IN ADDITION to the itemized receipt.

Receipt checklist:

- Flight receipt/proof of payment that shows the itinerary and the tax/fee breakdown
- Hotel receipt/proof of payment
- Meal receipts/proof of payment (not needed if requesting Per Diem)
- Transportation receipts (ground transportation to/from airport, etc.)
- Misc. travel costs (ex: parking, currency exchange fees, visa fees…)

CMU Business and Travel Expense Policy: Commonly referred to as the BTE, the following CMU webpages contain most of the relevant university policies related to travel and general expenses. If you have any questions after reviewing the information, please reach out to your administrator.

https://www.cmu.edu/policies/financial-management/business-travel-expense.html

https://www.cmu.edu/finance/controller/faq/bte/index.html

Purchasing in advance: Your administrator can purchase your airfare and conference registration using their university credit card. Alternatively, you can purchase them and submit for reimbursement prior to your travel. Lodging and other travel expenses are typically submitted post travel.

Booking Flights: Travelers have the choice to book their own flight and receive reimbursement or have their administrator book it for them through the university's travel booking portal CTP

https://www.cmu.edu/finance/procurementservices/travel/

That said, If you're unsure whether your flight is compliant with policy, you can always ask your administrator.

Airfare Class - Per federal regulations and university policy, any airfare purchased should be the least expensive unrestricted accommodation, which as of right now, generally equates to **economy and main classes**. Anything above that (e.g. premium, plus, comfort, early boarding, seat selection fee, etc.) would be considered an upgrade. Airfare upgrades are NOT eligible for reimbursement unless you've specifically received approval from the department. All upgrades must be charged to discretionary funds and CANNOT be charged to federal awards. (**Note:** The department typically does not approve airfare upgrades for students.)

To request an upgrade, the traveler or their administrator should send an email to the department's DDFR, Stefan Hadricky (stefanh@andrew.cmu.edu), prior to the trip with a

standard justification, detailed flight itinerary, total cost, business purpose for the upgrade and confirmation that discretionary funds will be used.

> **Important:** If you are planning to purchase an airfare upgrade, it's good practice to pull flight comparisons (using economy / main class) prior to travel or at the same time you are booking your actual flight. This will make it easier for the administrators when they are processing your expense report (ER) and allocating costs between federal funds and discretionary funds.

Allowed Travel Dates: The department uses long-standing guidelines and practices for travel reimbursements based on strict federal standards for allowability (business days vs personal days). In order to determine the legitimate business days, referred to as the ‘Allowed Travel Dates', we will review the event dates and destination based on official documentation (e.g. event’s website). For domestic events, we allow one (1) travel day prior before the start of the event. For international events, we allow two (2) travel days before the start of the event. Travelers should depart the day after the event ends. Unless there is additional legitimate CMU business before or after the event in the same destination, anything outside of the ‘Allowed Travel Dates', would be considered a personal day and would therefore not be eligible for reimbursement.

Personal Travel: Extending your trip for personal travel is allowed, however the university will NOT pay any additional airfare or other travel costs associated with the extra days. If you plan to include personal days, you must pull a roundtrip flight comparison for the destination using the corresponding 'Allowed Travel Dates' (as described above) and economy / main class from a legitimate airline or travel website. Please provide a copy of the flight comparison to your administrator. You will be reimbursed up to the flight comparison amount. If you have questions about this process, please ask your administrator before booking your flights.

There are general rules to be aware of especially when traveling internationally and/or charging travel to federal / sponsored awards. Summary below:

a) Fly America Act - All air funded by the federal government is required to use a "U.S. flag" air carrier service. There are some exceptions to the FAA, however long flight duration themselves are not an exception. The most common exception is the Open Skies Agreement. This is primarily useful in Europe and less so in the Asian pacific.

b) Open Skies Agreement - Allow travelers to use foreign air carriers from countries with Open Skies Agreements with the US. The current list of countries can be found at the following link –

Both policies can be found at the following link:

https://www.gsa.gov/policy-regulations/policy/travel-management-policy-overview/fly-america-act

> **Important:** As of January 1, 2021, The United Kingdom is no longer a member of the EU. Consequently, the Open Skies Agreement with the EU does not pertain to the U.K. Travelers must use a U.S. Flag Carrier to travel from the U.S. to the U.K. and not a U.K. airline (e.g., British Airways), unless they use a different Fly America Act exception.

Meals: Travelers can receive meal reimbursement using either 'actual receipts' or 'per diems'. (Please check with your advisor if they have a preference between the two options.) If 'actual receipts' is selected, please send copies of all your receipts. If per diem is selected, receipts are not required. If meals are provided at a conference, you cannot receive a per diem for those meals (breakfast, lunch, dinner). Actual receipt totals should not exceed the daily per diem total allowed. If they do, your advisor will be notified.

Domestic Meal Per Diem Rates - https://www.gsa.gov/travel/plan-book/per-diem-rates

Foreign Meal Per Diems Rates – https://allowances.state.gov/web920/per_diem.asp

Lodging: It's the department's preference that the traveler book their lodging and request reimbursement. (Exceptions can be made for individuals without credit cards.) If you are charged for lodging before your trip, we can reimburse you for the expense, however proof of payment must be included. If for some reason your trip gets cancelled, you must immediately notify your administrator and repay the funds to the university.

5.4 Computing Equipment

To purchase computing equipment, please reach out to the S3D IT team: s3d-help@andrew.cmu.edu

5.5 Mailing Address (TCS Hall)

If your office is in TCS Hall, the TCS mailroom is on the 4th floor by the kitchen (TCS 430):

S3D - TCS Hall 430
4665 Forbes Avenue
Pittsburgh, PA 15213

CMU main Postal Service is located in Cohon University Center (CUC)

5.6 Reserving Conference room @ CMU

Your Faculty Administrator can reserve meeting / conference rooms on your behalf. If you need a recurring reservation for an entire semester, please let them know as soon as possible. The earlier you let them know, the better chance of finding an available room. (Meeting / conference rooms tend to fill up fast during the academic year.)

5.7 Keys

General access keys may be picked up in **GHC 4107** after new student orientation. Upon completion of your degree, all keys must be returned to **GHC 4107**.
Building Access Cards are distributed at orientation. Many of the buildings around campus have access control readers on their exterior doors in order to ensure security after hours and on weekends. By default and as members of the campus community, all cardholders, including students, faculty, staff, and sponsored individuals, have access to these buildings:

- University Center
- Cyert Hall
- Newell-Simon Hall
- 311 S. Craig street
- Wean Hall
- Porter Hall
- Baker Hall
- Hamburg Hall
- West Wing Computer Cluster

Students in the CIC building have access to the CIC building.
For questions or issues regarding building access, contact The HUB.

5.8 Purchasing and Reimbursement Procedures and Policies on Goods and Services

The university has detailed and strict policies relating to the purchase of goods, services, equipment, etc. There are also reimbursement policies, along with tax exempt considerations.

OTHER EXPENSES / NOTES

Software & Services: Software and services typically need to be reviewed by the CMU's University Contracts Office (UCO). They will review the terms and services to mitigate any risk and approve/sign on behalf of CMU.

Business Meals: Please let your administrator know the **number of attendees** and the **topic/purpose** of the business meal. If it's 6 or less attendees, you should provide full names and affiliations of each person.

General Supplies: Administrators can also purchase some business expenses (general supplies) on your behalf with their CMU tax-exempt credit card. The procurement request should include a valid business justification (5Ws).

Tax Policy: Please submit your receipts as soon as possible after the expense is incurred. If the expenses are submitted over 90 days after the date of purchase, the CMU will treat it as taxable income (per IRS policy).

Please reach out to your advisor's administrative staff for reimbursements information.

5.9 Department Office/Building Security, Repairs and Services

For department office/ building repairs and services please contact: Stefan Hadricky stefanh@andrew.cmu.edu.
For security concerns please contact CMU Police.

5.10 Department and/or College Graduate Student Organizations/Advisory Committee/Graduate Representatives:

Graduate Student Assembly (GSA) is the branch of CMU's student government that represents graduate students. Please contact Societal Computing student Ben Weinshel or Shyam Agarwal with any questions regarding GSA.

5.11 Direct Deposit for Reimbursements

It is highly recommended that you enroll in Direct Deposit for reimbursement of any eligible travel or conference expenses. Direct deposit provides faster, more secure reimbursement than receiving a paper check. Instructions for setting up Direct Deposit in Workday can be found here:

Switch to Direct Deposit for Expense Reimbursement in Workday

SECTION 6: Advising

6.1: Role of an Advisor and Advisor Assignments

Each student has a faculty advisor charged with guiding the education and monitoring the progress of the student through the program. This personal student-advisor relationship ensures that every student receives the necessary faculty mentoring.

Throughout the program, the advisor is responsible for guiding the student's research and education. Early in the program, the advisor guides the student along with research

initiatives and helps with strategic planning for courses and other educational activities. Later, the advisor helps to focus the student's research interests towards a thesis topic. Toward the end of the program, the advisor chairs the student's thesis committee and helps to select the other members of the committee. The advisor also provides the student with career advice.

How are advisors initially chosen?

This is done at admission time. The Societal Computing faculty collegially matches each student with a faculty member, taking into consideration their preferences, interests, and background as revealed in their application materials, as well as interest and funding availability among the potential advisors.

There is flexibility in the kind of relationship a student has with their advisor. While the advisor is a student's primary source of guidance, many students interact closely with faculty other than their formal advisor, for example as part of research collaboration. A few students have two co-advisors.

Occasionally evolving research interests and other factors motivate changes in advising relationships. It is acceptable for students to request a change in advisors. Such changes are approved by the SC PhD Program Director with agreement from the new advisor and a consensus about how to gracefully tie up any loose ends in the previous research project.

Any non-courtesy Tenure Track or Research Track faculty member in SCS may serve as a sole advisor or co-advisor. In addition, faculty in other tracks, or in other schools, can serve as advisors or co-advisors with permission of the SC PhD Program Director.

6.2 Advisor/Advisee Collaboration

Individual Development Plan (IDP): Individual Development Plans (IDPs) are meant to promote professional and personal growth by formally documenting goals and facilitating dialogue, collaboration, and accountability between advisors and advisees. Carnegie Mellon has developed a set of templates that can be used by doctoral students and their advisors to create an Individual Development Plan. (See link below for template)

As described in Section 6.1, the advisor guides the student in their research and mentors them toward the program goals. Ideally, the student and their advisor set goals jointly and document them in a Individual Development Plan (IDP). In addition to regular advising meetings, students report progress and receive an evaluation through the semi-annual Doctoral Student Review (DSR) process described in Section 10.3.

6.3: Review/Redress of Academic Issues

Faculty and Student Ombudspersons

If a student feels the need to reach out to someone other than their direct advisor, or the program managers, or is not sure what avenue to pursue or is appropriate for addressing their problem, the student can turn to the Ph.D. program's faculty ombudspersons.

Currently, the faculty ombudsperson is **Jonathan Aldrich.** The faculty ombudsperson's roles and responsibilities are:

- To meet with students and listen to their problems
- To give advice, perhaps suggesting someone else to talk to or suggesting the next step to take
- To act on any issues where the program director may be conflicted
- To keep conversations confidential

If issues brought forward have not been resolved to your satisfaction, Please review our Graduate Student Appeal and Grievance Procedures for connection to University Policies and procedures.

SECTION 7: Doctoral Degree Requirements

7.1: Residency Requirements

The Ph.D. program is a full-time, residential program. Students are expected to register as full-time students each semester. If a student is unable to maintain full-time enrollment, they must request an appropriate status, such as a **Leave of Absence (LOA)** or **In Absentia (ABS)**. Newly admitted students who are unable to begin the program full-time may request a **deferral** of their admission.

Full-time students are expected to be in residence in Pittsburgh. Exceptions may be granted for students conducting research at an approved collaborative site with the prior approval of both their faculty advisor and the Ph.D. Program Director.

U.S. government regulations require F-1 and J-1 international students to be enrolled in an in-person degree program, with in-person expectation coursework. Even though this immigration requirement is specifically for international students, residency requirements in a degree program must be consistent for both international and domestic students.

7.2: Expected Timeline Estimates

The SC curriculum ensures all students have a solid foundation in Societal Computing, Computational Thinking, Statistics, and Management/Policy. At the same time, it retains enough flexibility to enable students to further specialize in areas that are more closely relevant to their research interest. The following sample schedules are illustrations of the courses three different sets of students could take.

Students are expected to be working on research every semester with intensity at least 1/2 time throughout their time at CMU. In addition, it is expected that students volunteer within the department and school throughout their time at CMU.

Sample Schedule 1

Fall 1	**Spring 1**
SC Practicum 17-994	SC Practicum 17-994
Star Course (any category)	Star Course (any category)
SC Reading & Research	SC Reading & Research
Fall 2	**Spring 2**
Star Course (any category)	SC Practicum 17-994
Elective Course	Elective Course
SC Reading & Research	TA-ship
	SC Reading & Research
Fall 3	**Spring 3**
Star Course (any category)	Elective Course
TA-ing	
SC Reading & Research	

Sample Schedule 2

Fall 1	**Spring 1**
SC Practicum 17-994	SC Practicum 17-994
Star Course (any category)	TA-ship
Elective Course	SC Reading & Research
SC Reading & Research	
Fall 2	**Spring 2**
Star Course (any category)	SC Reading & Research
Elective Course	TA-ship
SC Reading & Research	
Fall 3	**Spring 3**
Star Course (any category)	SC Reading & Research
Elective Course	TA-ship
SC Reading & Research	

7.3: Registration Process

For registration information, please refer to the **CMU HUB.** Students are responsible for registering for courses and meeting all University registration deadlines, with the exception of the **Summer semester**. Students are encouraged to consult with their faculty advisor when selecting courses to ensure they support their academic progress and research goals.

Summer registration is completed by the Program Coordinator and is based on each student's response to the **Summer Plans Form**, which is distributed in early spring. Students must submit the form by **May 1**. Registration for the summer semester will reflect the student's indicated plans (e.g., research, internship, or other approved activities).

Societal Computing courses you must register for Fall and going forward.

17-994	Societal Computing Practicum	9 Units	Fall – First year only
17-994	Societal Computing Practicum	9 Units	Spring – First year only
17-993	Societal Computing Graduate Reading & Research (Section A)	Variable Units	Every Semester
XX-XXX	Any Star or Elective (Check with your advisor or review the handbook of approved courses)		

You must carry 48 units every semester. You will adjust your Reading & Research Course (17-993) to meet these units. For example, in your first semester:

17-994 – Societal Computing Practicum (9 Units)
17-xxx – Star course or elective (12 Units)
Total of 21 Units –
You will then register for your Reading & Research course for (27 Units) = 48 Units total

7.4: Required Units for Degree Attainment

In the PhD program in Societal Computing (SC), each student must complete **108 university units of graduate courses** and receive at least a B- in each course in order to earn a PhD in Societal Computing.

Course requirements are intended to ensure that all program graduates have sufficient breadth in SC fundamentals as well as depth in one or more relevant areas of their choice.

Students must demonstrate breadth in SC fundamentals by completing **48 units** in 4 area star requirements plus a minimum of **18 units** of the SC Practicum. Depth is provided through the remaining **36 units** of elective coursework, which can be fulfilled from a broad selection of relevant electives – as well as research and project work.

Finishing out the **108 units** is the **Societal Computing Pre-Thesis course (6 Units)**. The Societal Computing Pre-Thesis course 17-802 is provided by each Societal Computing adviser to coach the student in preparing, presenting, and passing a thesis proposal.

In addition to course requirements, students must pass the following: **Writing, Speaking, Computation and Teaching requirements.** Details regarding all student requirements are below.

7.5 Core Courses

Societal Computing Practicum 17-994

The Societal Computing Practicum course. Students must take this course in their first year, both in the **Fall (9 units)** and the **Spring (9 units)** for a total of **18 units**.

Practicum Syllabus:

Societal Computing Topics

- Literature review. Write a literature review, working with an advisor to pick a topic and identify research questions. Writing includes critiquing papers being synthesized in the review. This is intended to be a “short form” literature review of approximately 2-4 pages of the sort that typically introduces a conference paper.
- What makes good interdisciplinary research? While each research group focuses continuously on this topic, the practicum will provide a broader view, e.g., by inviting a senior researcher from S3D or SCS to share reflections on their own research strategies, key choices they made in their careers, and advice they can offer budding researchers.
- What is SC about? Hear from and interact with SC faculty members to see the breadth of research topics, methods, and policy concerns within SC.

Skills

- Presentation skills. This includes presenting a literature review, an elevator speech, and talking to a general audience. Senior students should be involved in critiquing & helping younger students.
- Giving feedback and critiquing. Not only is speaking important, but active listening, and skill and constructive critiquing are important skills that the practicum should develop.
- Writing and presentation software. Learning “power user” skills for writing and presentation software used by most academics, such as Latex, Word, PowerPoint.
- Human subjects. Students should go through the process of preparing an IRB application. Senior students can share their experiences with IRB and human subjects in general.
- Time management. There are several possible approaches to this topic including bringing in an outside expert or facilitating a roundtable discussion with senior students.
- Ethics. Students should learn about CMU’s policy on plagiarism, as well as ethical considerations for authorship and author order, and more generally the ethics of

their profession.

7.6 Star Courses

Four Areas:

The four-star courses (48 units) provide students with a basic grounding in core skills needed for research. Each student must pass one-star course from each of the areas.

- Societal Computing
- Computational Thinking
- Statistics
- Management/Policy

Students are to take a minimum of one 12-unit course (or two 6-unit courses) from each of the required areas. No course may satisfy more than one requirement in its entirety. In rare cases, the units of a course may be split between two categories such as 6 units in one area and 6 in another.

Students should discuss exactly what courses are to be taken with their advisor. Please note the below list is illustrative, not comprehensive. At CMU new courses are added most years. If there is a course that you feel is appropriate, simply send an email petition (petition instructions are listed below) to the Director of the SC PhD program, Bogdan Vasilescu, and Connie Herold, Academic Program Manager asking to count it. Only letter grades will be accepted for all Star Courses.

Approved Star Courses

Societal Computing: (12 Units)

A 17- PhD level (or masters with permission of instructor) course taught by Core SC faculty

- 10-713 Machine Learning, Ethics, and Society
- 10-743/11-805 Socio-technical Evaluations of Generative AI
- 10-735 Responsible AI
- 10-736 Human-AI Complementarity for Decision Making
- 17-703 Cryptocurrencies, Blockchains, and Applications
- 17-720 Machine Learning and Sensing for Healthcare
- 17-722 Building User-Focused Sensing Systems
- 17-733 Privacy, Policy, Law, and Technology

- 17-734 Usable Privacy and Security
- 17-735 Engineering Privacy in Software
- 17-737 Artificial Intelligence Methods for Social Good
- 17-756 Computational Social Science Research Design & Data Analytics
- 17-759 Advanced Topics in Machine Learning & Game Theory
- 17-781 Mobile & Pervasive Computing Services
- 17-801 AI Enabled Network (Previously Dynamics Network Analysis)
- 17-803 Empirical Methods
- 17-821 Computational Modeling of Complex Socio-Technical Systems
- 17-840 Green Computing

Computational Thinking Skills: (12 Units)

Computational Thinking skills courses address issues of how to reason computationally. These courses involve the design and development of core algorithms and not just the application of canned programs.

- 10-601/10-701/15-781 Machine Learning
- 10-715 Advanced Introduction to Machine Learning
- 11-711 Algorithms for NLP
- 11-768 AI Agents
- 11-785 Introduction to Deep Learning
- 14-741/18-631 Introduction to Information Security
- 15-750 Algorithms
- 15-780 Advanced AI Concepts
- 15-830 Computational Methods in Sustainable Energy
- 15-853 Algorithms in the Real World
- 15-892 Foundations of Electronic Marketplaces
- 17-715 Microarchitectural Security
- 17-731/18-734 (Previously 08-604) Foundations of Privacy
- 17-737 (Previously 08-737) Artificial Intelligence Methods for Social Good
- 17-759 Advanced Topics in Machine Learning and Game Theory
- 17-821 (Previous 08-810) Computer Simulation of Complex Socio-Technical Systems
- 17-880 Algorithms for Private Data Analysis
- 18-631 Introduction to Information Security
- 18-730 Introduction to Computer Security
- 18-731 Network Security

Policy and Management (12 Units)

These courses address issues of management and policy. Methods courses are not allowed in this area.

- 17-716 Responsible AI and AI Governance: Identifying and Mitigating Risks
- 17-762 (Previously 08-732) Law of Computer Technology
- 17-733 (Previously 08-733) Privacy Policy, Law, and Technology
- 19-701 Theory and Practice of Policy Analysis
- 19-702 Quantitative Methods for Policy Analysis
- 19-705 Workshop on Applied Policy Analysis (6 units)
- 19-712/18-842 Telecommunications Technology, Policy and Management
- 19-713 Policies of Wireless Systems
- 19-718 Public Policy and Regulations
- 47-888- Organizational Behavior (Micro)
- 47-890 Seminar in Organizational Behavior
- 47-891 Seminar in Organizational Theory (6 units)
- 90-840 Legislative Policy Making

Statistics (12 Units)

These courses address issues of statistical data analysis, and provide methodological skill in statistics.

- 10-708 Probabilistic Graphical Models
- 10-716 Advanced Machine Learning: Theory and Methods
- 17-740: Algorithmic Foundations of Interactive Learning
- 17-757: Modern Techniques in Uncertainty Quantification
- 17-803 Empirical Methods
- 19-703 Applied Data Analysis I (6 Units)
- 19-704 Applied Data Analysis II (6 Units)
- 36-700 Probability and Mathematical Statistics
- 36-705 Intermediate Statistics
- 36-707 Regression Analysis
- 36-749 Experimental Design for Behavioral & Social Sciences
- 90-906 Intro Econometric Theory
- 94-834 Applied Econometrics I
- 94-835 Applied Econometrics II

7.7: Electives

36 Units Required

All students are required to take a minimum of 36 units of PhD-level electives. These electives provide depth in an area of relevance to the student. This requirement can be filled by a combination of mini courses (6 units) and full courses (12 units). Please note that courses must be at the level of XX-700 or higher to count as an SC elective, unless the exception procedure below is followed. These electives may be drawn from a variety of sources:

- A specialized independent study on a topic for which there is not a regularly offered course. At most 12 units of independent study may count toward the SC elective requirement.
- Additional courses in SC
- Additional courses in SCS
- Additional PhD level courses at CMU or the University of Pittsburgh. At most one course may be a course at the University of Pittsburgh through PCHE

Exception Procedure to Count Courses under XX-700 number:

Students must receive approval from their advisor and Program Director, Bogdan Vasilescu. Please follow the same directions under "Petition Procedures for Requesting New Star Course". A request for an exception must be made at the start of the semester.

7.8: Societal Computing Pre-Thesis 17-802 (6 Units)

The Societal Computing Pre-Thesis course (17-802) is provided by each Societal Computing advisor to coach the students in preparing, presenting, and passing a thesis proposal.

The proposal will generally occur in the semester where this course is taken. If not, an incomplete may be awarded pending the proposal at the advisor's discretion. In that case, in accordance with university policy, the course must be completed (and the thesis passed) no later than the last day of the following semester, or the default grade will be awarded.

7.9: Computational Thinking/Programming

(Effective Fall 2025 Cohort and Later)

To satisfy the **Computational Thinking and Programming** requirement for the Ph.D. degree, students must complete **one** of the following options:

1. Coursework Requirement

Students must complete **two approved Computational Thinking ("Computational Star") courses.**

- The current list of approved courses is available **here.**
- Courses must be completed with a passing grade and may not be taken as Pass/Fail.

2. Petition to Waive Second Course (Optional)

Students who can demonstrate **substantial prior computational experience** (e.g., professional software development, relevant industry or research experience) may petition to waive the requirement to take a second Computational Thinking/Programming STAR course.

Petitions must be submitted to your current advisor(s) for approval and **CC'd to both Connie Herold and Alisha Roudebush** in advance of the **Spring or Fall DSR meetings**.

The **Petition Form** is available **here**.

Your current advisor(s) will determine whether the coursework and supporting documentation meet the requirements for the waiver.

7.10: Writing Skills

The ability to communicate technical ideas clearly in writing.

To fulfill the writing requirement for the Ph.D. the student must demonstrate a high level of competency in an organization, clarity of writing in English, cohesive argument, and accurate utilization of references by writing a paper that is accepted for publication by a high-quality peer-reviewed conference, journal (or equivalent, as approved by the SC faculty), or acceptable thesis proposal.

Approval is typically determined during the Doctoral Student semi-annual Review.

7.11: Speaking Proficiency

The ability to communicate technical ideas in oral presentations.

To fulfill the speaking requirement for the PhD, the student must:

- Attend and present in the SC PhD Practicum.
- Present, at least once, at a national or international conference (in a paper session, not a poster session or round table).
- Achieve a high level of competency in talk organization, slide development presentation style, eye contact, and question answering skills.

Approval is typically determined during the Doctoral Student semi-annual review.

7.12: Portugal Curriculum

The Software and Societal System Department (S3D) offers a dual degree Ph.D.in Societal Computing in cooperation with several Portuguese universities ("CMU|Portugal program"). The regulations are essentially the same as given in this document, except that some requirements can be fulfilled in an affiliated program in Portugal.

The Dual Degree Program is based on a matching of requirements of both the Carnegie Mellon and the partner institutions PhD Programs. Each student will be co-advised by a S3D-SC/Carnegie Mellon faculty member and a faculty member of the Portuguese Institution.
The student is expected to spend a period of two years at S3D/Carnegie Mellon. In this time, the student shall take star courses (as specified by Carnegie Mellon/S3D SC regulations) and start working on research.

The second period, whose duration is to be determined by the co-advisors but is expected to last typically three years, will be hosted by the partner institution in Portugal where the student is expected to continue with the research work. The research work will take place in the context of collaborative research activities between the partner institution in Portugal and Carnegie Mellon.
The remaining time until completion of the thesis shall be divided between research stays at SC-S3D/Carnegie Mellon and the Portuguese Institution. The schedule should be flexible to fit the needs of the doctoral research project.

By the end of the third or the fourth year the student must present the thesis proposal formally at S3D SC/Carnegie Mellon or at the partner institution. The Portuguese co-advisor should attend the oral presentation and discussion of the Thesis Proposal at S3D SC/Carnegie Mellon or via videoconference.

The public oral thesis defense will take place either at Carnegie Mellon or at Portuguese Institution according to the rules of the SC PhD program. The thesis evaluation committee

must include both the Carnegie Mellon and the Portuguese co-advisors, members of the advisory committee, and external reviewers.

Dual Degree Requirements for Portugal

- All 36 units of electives can be satisfied with courses taken in Portugal as long as they generally satisfy our requirements (graduate/PhD level). This will be checked and approved by the program director and using input from at least one other faculty in the relevant subject matter;
- The teaching requirement is brought down to ONE class owing to the fact that students are only here for four semesters (excluding summers);
- 18 units of Societal Computing Practicum 17-994 seminar must be taken in person, in Pittsburgh;
- This leaves 48 units of STAR courses spread over four semesters which seems eminently doable while doing research in Pittsburgh.
- COMPUTATIONAL, SPEAKING, and WRITING requirements are maintained but can be fulfilled without being in residence;
- Proposal, thesis, and defense can be done remotely from Portugal or from Pittsburgh; the choice is the student's and their advisors'.

7.13: Joint PhD degree in Societal Computing and Engineering and Public Policy

The Software and Societal Systems Department (S3D) in Carnegie Mellon University's School of Computer Science and the Engineering and Public Policy Department (EPP) in the College of Engineering offer a joint PhD degree in Societal Computing and Engineering and Public Policy. This joint degree is designed for students interested in conducting research at the intersection of computer science and its societal applications and who want to use their research to inform public policy. Students in the joint program will gain rigorous policy analysis skills through their EPP coursework and deep insights into both computer science concepts and the societal impacts of computing through their research and coursework in S3D. Joint students will be part of both department communities and will have access to resources in both departments and colleges.

Program details

Joint SC/EPP PhD candidates will be required to satisfy the requirements of both departments, but many courses can count toward both requirements. Joint students must complete a qualifying exam in EPP and satisfy the SC speaking, writing, and computational thinking requirements. Both programs require students to TA two courses; joint students satisfy this by completing one teaching internship in each department. Candidates will form one defense committee, meeting each department's requirements, and will complete one proposal and one final defense, submitting a single dissertation. Students have two advisors – one in each program – or a single advisor jointly appointed in both programs.

How much more work is it to satisfy both sets of requirements?

From the EPP perspective, students can complete the joint degree by completing the EPP requirements, carefully choosing EPP electives that satisfy SC course and computational thinking requirements, plus an additional 6 units of SC practicum beyond the EPP requirements.

From the SC perspective, students can complete the joint degree by completing the SC requirements, carefully choosing SC electives that satisfy EPP course requirements, plus 30 additional units of coursework and the EPP qualifying exams.

Here is a summary of how students can satisfy both sets of requirements:

- The 36 units of electives for the SC program (700-level or above) can be used to satisfy the EPP elective requirements.
- Students have to take 19-701 and 19-702. One of these classes can be used to fulfill the SC STAR policy requirement.
- The combination of 19-703 (mandatory in EPP) and 19-704 (usually taken in EPP, albeit not strictly mandatory) can be used to fulfill the SC STAR statistics requirement. 12-704 (Probability and Estimation Methods for Engineering Systems) can also be used to fulfill the SC STAR statistics requirement for students in the joint program.
- The Societal Computing STAR course could count as a technical elective in EPP.
- Some of the courses (e.g., machine-learning classes at the 700-level or above) satisfying the SC STAR computational requirement can be used to fulfill the EPP quantitative requirement.
- The EPP Economics core requirement should be taken as an extra course beyond the SC requirements.
- Students have to take the SC practicum, preferably in the first year of study. 12 units of SC practicum can count toward the 24 units of social science electives in

EPP, leaving only an extra 12 units of social science electives required to fulfill the corresponding EPP requirement.

- Students have to take the qualifying exams (Part A and part B) in EPP. This means the production of a research paper roughly at the end of year 1.
- Students have to meet the computational/writing/speaking requirements in SC. This is independent of EPP requirements but is not contradicting them. Passing the EPP Part A qualifier (at the PhD level) can be used to satisfy both the writing or speaking requirement.
- Students have to perform one teaching internship in EPP and one in S3D.

EPP Requirements	**SC Requirements**
19-701 (12 units)	Counts as policy STAR course (12 units)
19-702 (12 units)	*Not needed for SC
19-703 (6 units) + 19-704 (6 units)	Counts as statistics STAR course (12 units)
19-705 (6 units) — optional but highly recommended	*Not needed for SC
Quantitative methods (18 units, 6 already satisfied with 19-704)	Computational STAR course (12 units); both requirements satisfied as long as SC course is selected to meet EPP's quantitative methods requirement
Economics (12 units)	*Not needed for SC
Technical electives (36 units)	SC STAR course (12 units) + 2 SC electives (24 units)
Social science electives (24 units)	1 SC elective (12 units) + SC practicum (18 units); this is 6 units beyond EPP requirement
2 teaching internships (1 in each department)	2 teaching internships (1 in each department)
Part A qualifier	Speaking and writing requirements
Part B qualifier	*Not needed for SC
*Not needed for EPP	Computational requirement
Thesis proposal	Thesis proposal

*Not needed for EPP, but represents the work done to prepare the joint thesis proposal	6-units of SC Pre-Thesis
Thesis and defense	Thesis and defense

Process for Completing a Master's Degree en Route to the Ph.D. for SC/EPP Joint Students

Students in the Societal Computing (SC) and Engineering & Public Policy (EPP) joint Ph.D. program will follow the master's degree requirements of their home department (either SC or EPP).

Ph.D. students in the Societal Computing program may elect to receive a **Master of Science in Societal Computing** while progressing toward their doctoral degree. Awarding of the master's degree is optional and must be formally requested by the student.

Degree Requirements

To be eligible for the Master of Science in Societal Computing, students must complete:

- **Core ("Star") Courses:** 48 units
- **Elective Courses:** 36 units
- **Practicum:** 18 units
- **One Skill Requirement:** Demonstrated proficiency in either Speaking, Writing, or Computational Skills (or fulfilling the Part A Qualifier in EPP)

Masters along the way Request Process

Students who wish to receive the master's degree must indicate their request on the **Doctoral Student Review (DSR)** form submitted prior to a semi-annual Student Doctoral Review, in addition to emailing **Connie Herold- cherold@andrew.cmu.edu or Alisha Roudebush-aroudebu@andrew.cmu.edu.**

Master's degrees will **not** be awarded retroactively.

The degree awarded will be: Master of Science in Societal Computing

Societal Computing/EPP Thesis Committee composition

The committee must consist of a minimum of four members. Two must be EPP faculty members (this includes affiliated and jointly appointed, but not courtesy faculty) who are also full-time CMU faculty. At least one committee faculty member must be from Societal Computing, and at least two must be from SCS (including affiliated faculty). One must not have any appointment in EPP or Societal Computing (this precludes affiliated faculty, courtesy faculty, or adjunct faculty, even if the latter has a primary affiliation outside CMU). All thesis committees are subject to departmental approval (both in S3D and in EPP).

Adjunct and courtesy faculty can always serve as the fourth (or fifth) member of a committee.
Examples of possible committees:

- Prof. W (advisor) is jointly appointed in S3D (Societal Computing) and Engineering and Public Policy, Prof. X is appointed in EPP, Prof. Y is appointed in CSD, Dr. Z is a research staff member at a national lab.
- Prof. A (co-advisor) is appointed in S3D (Societal Computing), Prof. B (co-advisor) is appointed in EPP, Prof. C is appointed in EPP, Prof. D is appointed in HCII, and Dr. E is a researcher working in industry.
- Prof. F (co-advisor) is appointed in S3D (Societal Computing), Prof. G (co-advisor) is appointed in EPP, Prof. H is jointly appointed in EPP and in SC, and Prof. I is a professor at a different university.

7.14: Protocol for Evaluation of Transfer Credit

The Societal Computing Program does not accept transfer credit.

7.15: Protocol for Evaluation of Course Waiver

This program does not accept transfer credit of courses taken outside of CMU.

Students may request to waive up to two course requirements based on equivalent graduate level courses they have already taken. No more than 12 units of star courses can be waived.
Students who have also taken PhD level courses at Carnegie Mellon prior to entering the Societal Computing PhD program may request credit for up to two courses, as long as the course taken would satisfy one of the Star course or elective program requirements.

All grades for course waivers will be recorded as part of the internal Student Record as with CMU courses taken while enrolled in the PhD program. Any course waiver will not show up in the student's official student transcript.

To apply for a waiver, a student must submit a petition to the Ph.D. Program Coordinator within **their first year i**n the program. A separate petition must be submitted for each course to be waived.

** Please note that a course waiver will not be granted for equivalent “Professional Experience”. We suggest the student take a different course to enrich their technical background.
The petitioner must make a case for how prior courses are equivalent in substance, submitting a self-contained justification, a syllabus, and a transcript (translated if necessary). As needed, the petitioner can provide additional support for the case by providing slide excerpts, reading lists, homework assignments, work products, or other supporting artifacts. For star courses, the justification must argue why the course(s) match the intent and expectations of the appropriate star requirement, similar to requests for approval for a new star course (described above). To waive a course based on comparable experience, the student should document how the experience demonstrates their systematic knowledge of the relevant material.

Typically, courses may be waived based on rigorous graduate courses taken as part of a master’s degree.

These petitions will be considered by the faculty, typically delegated to a faculty member with expertise in the corresponding star area. The outcome of the petition process will be decided based on provided information on the prior course and the petitioner’s performance in it. The faculty may ask appropriate instructors for assistance in this decision or reject the petition with a request for resubmission if insufficient information is provided. If appropriate, the faculty may stipulate conditions on the waiver, such as preparing a supplementary project that exposes the student to Societal Computing research in the area of the course, and is roughly equivalent in scope to a final project in a typical PhD-level course.

In order to apply for the course waiver please fill out the Course Waiver Form with all supporting documents and send it to the Director Bogdan Vasilescu, Connie Herold Alisha Roudebush.

7.16: Teaching Requirements/Opportunities

The ability to teach is an important skill for all scientists, not only for those who plan to teach after completing their degrees. Teaching skills include the ability to communicate

technical material ranging from elementary to advanced, and to communicate technical material to audiences ranging from general to specialized. Thus, we expect students to develop and exercise teaching skills as part of their graduate education.

To fulfill the teaching requirement for the PhD degree the student must do one of the following:

- Serve as a full TA for two full-length SC Courses (9 or 12 units); or
- Serve as a full TA for one full-length SC Course and one full-length SCS course (9 or 12 units) with the permission of the student's advisor; or
- Serve as a full TA for one full-length SC Course and teach the equivalent amount in the CASOS or IDEAS summer institute (requires substantial teaching over multiple years).

We encourage students to participate in TA trainings such as the Eberly Center's Graduate and Undergraduate Student Instructor Orientation (GUSIO) program prior to TAing.

In the rare event that students desire to fulfill their teaching requirement using the same course twice, then they are expected to accept additional responsibility. The additional responsibility is intended to afford the student an education benefit that is at least equivalent to TAing two different courses. Thus, students should expect to supplement their second TA'ship by assuming the teaching apprentice or co-instructor role in the second course installment, as defined below:

- Teaching Assistant (TA) is the norm and generally consists of assisting with grading, holding office hours and tutoring, teaching recitations if these exist, and developing exam questions.
- Teaching Apprentices fulfill all the TA responsibilities, in addition to some appropriate combination of assisting with lecture design for two or more lectures, managing teaching staff, if there are staff, course module redesign, and homework design.
- Co-instructors are an official designation assigned by the registrar and individuals in this role will share responsibility for the entire course with a second co-instructor, who is usually a faculty member. This may include lead responsibility for one- to two-thirds of the lectures and a commensurate portion of designing and evaluating homework, in-class assignments, and exams.

The table below summarizes the key differences between teaching assistants, teaching apprentices and co-instructors: the columns correspond to roles, checkmarks indicate that a teaching activity is often expected, question marks indicate the activity may arise and dashes indicate the activity is often absent in the role. The roles for teaching apprentice and co-instructor should be individualized to a level of effort and teaching activities that are appropriate for the student and the course. While the responsibilities are monotonically non-decreasing from left to right, the teaching apprenticeship is not a prerequisite to become a co-instructor. Finally, the differences among roles were developed assuming that the course is conducted in a lecture-style, however, the expectation for increasing

responsibility for each role can, and should, be adapted to courses taught in any other style.

Teaching Activity	Teaching Assistant	Teaching Apprentice	Co-Instructor
Grading	Typical	Typical	Typical
Lecturing	Maybe	2 or more	1/3-2/3 lectures
Managing staff	No	If there are staff	Typical
Module redesign	Maybe	Typical	Typical
Major course revision	No	Maybe	Maybe
Office hours, tutoring	Typical	Typical	Typical
Recitations	Typical	Typical	Maybe
Design/refine homework	Typical	Typical	Maybe
Design exams	Contribute	Typical	Typical
Assign grades	No	Contribute	Typical

Key: Typical = typical activity in this role, Maybe = activity may arise for this role, No = activity is often absent for this role

SC PhD students who hope to perform any of the above roles should contact the S3D TA coordinator (currently **Michael Hilton**) in the semester before the TA-ship would begin to get approval for TAing. There are typically two cases:

- Case 1: The student is looking for a course to TA. The coordinator will normally have a list of courses that are looking for TAs and the student should discuss possible options with the coordinator.
- Case 2: The student has some idea of the course to TA, perhaps having already talked to the instructor. In this case the student should send an email to the coordinator requesting to be assigned as a TA for that course. The request should include: (a) the course number and title, and whether it is primarily an undergrad, master's, or PhD course, (b) whether TAing has been discussed with the instructor, and (c) what role the student would have as a TA in the course (e.g., as part of a

team, as the sole TA, etc.).

After serving as a teaching assistant, in order to receive credit for the teaching requirement, the student must have the faculty fill out the teaching assistant evaluation form.

** Please note a Google form will be sent out at the beginning of each semester requesting TA assistance.

Students are encouraged to teach more than twice. At the semiannual student review meeting the faculty give special recognition to those who do an outstanding job as a TA and to those who teach beyond the required load. The School of Computer Science and the CMU Eberly Center offer teaching workshops which we encourage students to take advantage of. S3D also regularly offers a CS Pedagogy course (15-890).

Graduate students are required to have a certain level of fluency in English before they can instruct in Pennsylvania, as required by the English Fluency in Higher Education Act of 1990. Through this Act, all institutions of higher education in the state are required to evaluate and certify the English fluency of all instructional personnel, including teaching assistants and interns. The full university policy can be reviewed here.

The fluency of all instructional personnel will be rated by Language Support in the Student Academic Success Center to determine at what level of responsibility the student can TA. In addition to administering the International Teaching Assistant (ITA) Test (a mandatory screening test for any non-native speaker of English), Language Support in the Student Academic Success Center helps teaching assistants who are non-native English speakers develop fluency and cultural understanding to teach successfully at Carnegie Mellon. Visit the Student Academic Success Center website for additional information.

We are committed to supporting students who want to develop their teaching skills beyond the minimal teaching requirements. We encourage you to explore specific opportunities with the faculty. In particular, the S3D TA coordinator (currently **Michael Hilton**) can be a good first contact point. We also recommend considering 15-890 CS Pedagogy as an elective and exploring the Eberly Center's programs, such as the Future Faculty Program and their seminars.

7.17: Research Requirements/Opportunities

During a student's first two years, they should be doing directed research at least half time; and once all coursework is completed and before doing thesis research, they should be doing directed research full time (except when teaching).
Different students and advisors have different ideas of what directed research means and how progress can be demonstrated. It is the responsibility of both the student and their advisor to formulate for each semester a set of reasonable goals, plans, and criteria for success in conducting directed research.

At each semi-annual doctoral student review meeting, the faculty assess the student's previous semester's research progress and the student's next semester's research plans to ensure that the student is making satisfactory progress. The evaluation of a student's progress in directed research often depends on the student having produced some tangible results. Advisors are individually responsible for adequately supervising this portion.

Students will receive a Pass/Fail grade in Reading and Research 17-993.

Resources and Regulations Governing Research at Carnegie Mellon

- Office of Sponsored Programs
- Office of Research Integrity & Compliance
- Intellectual Property Policy
- Policy on Restricted Research
- Human Subjects in Research Policy

7.18: **Summer Internship Opportunities**

The Societal Computing Ph.D. program recognizes that external internships can provide valuable educational and research experiences, particularly when students need access to proprietary data. Ph.D. students may complete **up to four (4) external internships** during their doctoral program. Internships are optional and are **not** part of the required curriculum.

Summer Registration and Planning

During the summer semester, Ph.D. students must either:

- Participate in an external internship; or
- Continue research with their advisor.
  Students must discuss their summer plans with their advisor and complete the **Complete the Summer Plans Google Form**,distributed by Connie or Alisha in early February. Based on the form response, the program coordinator will register each student for one of the following:
- **Internship:** 17-995, Section I
- **Reading & Research:** 17-993, Section R
  This registration maintains the student's full-time status during the summer. Both courses count toward research requirements but **not toward coursework requirement**s.

Advisor Expectations

Advisors may have different expectations regarding students' availability for summer support, participation in internships, and continuity of research. Students should discuss their plans with their advisor well in advance to ensure that expectations are aligned.

Internships During the Academic Year

Internships during the academic year are rare and may be undertaken only when a student:

- Takes an approved leave of absence; or
- Participates in accordance with the **Department's Consulting Policy**.

International Students

Students in F-1 or J-1 status must:

- Consult the **Office of International Education (OIE)** before pursuing an internship, co-op, consulting opportunity, or other off-campus employment;
- Obtain **CPT (Curricular Practical Training** authorization or other valid work authorization before beginning employment; and
- Start the authorization process early, as approval may take several weeks or months.
  International students are responsible for maintaining compliance with all applicable immigration requirements. Beginning employment without proper authorization may jeopardize a student's immigration status.

Internship Extensions

If internship-related research remains incomplete at the end of the summer, a student may request an extension. Extensions:

- Require the advisor's approval;
- Must comply with the department's **Consulting Policy**;
- Must be requested from Connie or Alisha by August 15 of the same year; and
- Do not count toward the four-internship limit.
  International students must also consult **OIE** before extending a summer internship.

SECTION 8: Dissertation Preparation & Requirements

8.1: Ph.D. Dissertation

The thesis must describe a significant piece of original research work and must describe it well. It is evidence of proficiency, high attainment, and ability to do research in societal computing. It is on this basis that the Software and Societal Systems department certifies the qualifications of the new Ph.D.

Furthermore, it is the most important basis on which the scientific community judges the initial achievement and potential of that individual.

8.2: Thesis Committee

Thesis Committee Guidelines

The student's advisor(s) will serve as the Chair of the thesis committee. All other committee members—including the external member—must be identified and confirmed prior to the thesis proposal presentation.

Committee members are expected to meet regularly with the student to provide guidance and ensure that the research is progressing appropriately.

Committee Composition Requirements:

- The committee must include **at least four members**.
- It must include:
    - **Two faculty members** appointed in the Software and Societal Systems (S3D) department (excluding affiliated, adjunct, and courtesy faculty).
    - **A third faculty member** from Carnegie Mellon University (CMU), that may or may not be affiliated with S3D.
    - **One external membe**r from outside of CMU (SEI Faculty can count as external).

All thesis committees are subject to departmental approval. Please submit your proposed committee to **Connie Herold** or **Alisha Roudebush** for review and approval.

Participation Requirements:

- A minimum of **three committee members (including the Chair)** must be **physically present** for both the thesis proposal and final defense.

Committee Changes:

Any changes to the thesis committee after the proposal must be approved by both the **Committee Chair** and the **Program Director**. A written request detailing the reason for the change and the specific circumstances must be submitted for consideration.

8.3: Proposal

The student submits a written proposal to the thesis committee. The student also orally presents the thesis proposal to interested faculty and students in a public colloquium. The Thesis Proposal must describe a significant piece of original research as described in Section 8.1.

The main purpose of the thesis proposal is to convince the thesis committee that the chosen thesis topic is significant, and that the student's approach has a reasonable chance of success. It also protects the student by providing a more planable path toward completing the degree with the proposed topic. A thesis proposal gives the thesis committee the opportunity to pass such judgment at the start of the work and not at the end. We want to minimize the chance that a thesis will be turned down when almost completed. We expect students to present their thesis proposals as early as possible, ideally soon after establishing the research direction and establishing feasibility. For many students this will be approximately in their third year or at least two years before the defense.

A thesis proposal typically serves the following functions:

- Explain the basic idea of the thesis topic (e.g., the problem to be solved and the approach to solving it)
- Argue why that topic is interesting (e.g., what contributions to the field would be made in carrying out the proposed work)
- State what kind of contributions are expected and what the criteria for success are
- Argue that these contributions are obtainable within a reasonable amount of time
- Demonstrate that the student is qualified to perform the proposed work, as evidenced by an understanding of the area and its literature and by some preliminary results

A thesis proposal should be short, about 15–20 pages of text (in the typical dissertation format, single column, single spaced), and the oral presentation should take about 30 to 40

minutes, not including questions.

A thesis proposal should **not** be:

- A dry run for the thesis
- A summary or abstract of the thesis
- The first chapter or part of the thesis
- A technical report
- A survey of the field
- An annotated bibliography

The thesis committee decides on the outcome of the proposal after the proposal presentation and question-and-answer session as (a) pass, (b) conditional pass, or (c) fail.

When the student has completed all of the program requirements and passes their proposal (including meeting the conditions of a conditional pass, if applicable), they will be asked to complete the *All But Dissertation Status Agreement* (https://www.cmu.edu/hub/docs/abd-status-agree.pdf) form by the program administrator (see Section 8.4).

Like the defense, the proposal should be planned several weeks in advance. There are several recommended and mandatory steps described in Section 8.6.

8.4: PhD Criteria for Advancement to Candidacy

Until the curricular requirements are completed (e.g., core and elective courses, teaching, speaking & writing skills) *and* the thesis proposal is approved *and* all requirements are recorded as completed in DSR the status assigned is *"student."* Upon completion of the curricular requirements and approval of the thesis proposal the student transitions to *"doctoral candidate,"* which is designated formally as having *"all but dissertation" (ABD)* status.

A doctoral candidate with ABD status may choose to continue as a regular student *In Residence*; alternatively, if the residency requirement above is fulfilled; they may choose to be *In Absentia (ABS)*. Most students continue *In Residence* until their defense.

In Absentia (ABS, i.e., off campus): Students who leave CMU but plan to continue working on the thesis will be classified as ABS. These students should not require substantial use of university resources, but are permitted use of the libraries and consultation with faculty or students as necessary. While the candidate is ABS, they are required to pay the university technology fee each semester. No formal enrollment or payment of tuition is required, with the exception of the academic semester in which the degree requirements are completed. A candidate who is ABS can return to campus to defend or defend remotely. For returning to campus, it is required to enroll for a minimum of five units during the academic semester in which the degree requirements are completed. For students defending remotely without returning to campus a Dissertation Completion Fee is charged at the beginning of the final semester. Charges for these units are the responsibility of the

candidate.

Since an ABS candidate will not be certified by the University as a “student” for immigration purposes, students who are in the United States on a student visa and who become ABD should not choose to become ABS.

Students are advised to talk to the program administrator and their advisor to understand the implications of ABS status, including fees and immigration status, before making any decisions. For details on fees, see the Doctoral Student Policy, especially section “In Absentia Student Status Including the Final Semester Fees”: https://www.cmu.edu/policies/student-and-student-life/doctoral-student-status.html

In residence (ABD, i.e., on campus): Students who receive a stipend based on their status as a graduate student and are paid by or administered by the university (the standard case in S3D) will be required to register for a minimum of 48 units. There are no additional fees for the graduating semester. In exceptional cases, students may be self-supporting and are in ABD status, remaining on campus to complete the thesis; they must register and pay for a minimum of five units each semester.

8.5: PhD Defense

The student’s thesis committee decides whether to accept the thesis based on its content and the outcome of the thesis defense, which is a public presentation describing the contributions of the thesis. The presentation is usually about 45 minutes long.

For defenses the possible options for the outcome, to be decided by the committee after the presentation and question-and-answer session, are:

- To approve without corrections
- To approve subject to minor changes, to be approved later by the thesis committee chair only
- To require a resubmission after major changes and reapproval of the entire committee
- Not to approve the thesis

If the final copy of the thesis is not submitted within one year of the thesis defense, the faculty may require a second defense before making a final certification.

Your degree title will appear on your diploma as: **Ph.D. in Societal Computing or Societal Computing and Engineering and Public Policy (SC/EPP).**

The logistics for the PhD defense are similar to those of the proposal, as described in Section 8.6.

8.6: Proposal and Defense Logistics

Scheduling: A thesis proposal must be scheduled for a 2-hour meeting. A thesis defense must be scheduled for a 3-hour meeting. To enable the interested public to attend, thesis proposal/defense must be scheduled at a time agreed to by the thesis committee that is (a) during normal business hours and (b) during academic periods – not in the middle of the night, not during weekends, and not on university holidays.

Students should coordinate the proposal/defense date with their committee members and finalize the date as early as possible (usually multiple months in advance) to allow time for travel arrangements, final review, and comments by committee prior to proposal/defense date.

If the student (a) plans to obtain ABS status by a specific deadline after the proposal or (b) plans to graduate by a specific deadline after the defense, the student should talk to the program coordinator about relevant deadlines and provide sufficient buffer for possible revisions and necessary approval steps. For example, students are not allowed to participate in commencement exercises unless the final certification has been made on time, so the Ph.D. defense should be scheduled a few weeks in advance of graduation to allow time for possible revisions and certification.

- For proposals, time may be required after the presentation for revisions.
- For defenses, *in addition* to time for revisions, students should allow for **at least one week** for necessary approvals, including assuring the proper formatting of the dissertation (student's responsibility, see below), the approval of the final version of the thesis by the thesis committee, the Department Head, and the Dean (the program administrator will collect signatures), and the certification of the degree (done by program administrator). That is, **students must** hand in their final version of the thesis document at least one week before the planned graduation date.

Students should coordinate with their advisor's assistant to secure a room for their proposal/defense presentation. The room must be available to the public and must accommodate the committee and several attendees of the public.

In-person and remote participants: The candidate and at least **three** thesis committee members (including the chair) must be physically present for the thesis proposal/defense, and the thesis proposal/defense must be held at Carnegie Mellon. The only two kinds of routine exceptions are (a) for students in Ph.D. programs offered jointly with other universities and (b) for students in *In Absentia* status who elect not to return to campus for the defense (see Section 8.4). Any other exceptions must be approved by the Program Director. For remotely held defenses, a way to attend the proposal/defense from the CMU campus (usually a Zoom link) must be shared with the usual announcement of the proposal/defense to the public.

If the proposal/defense has a remote component (e.g., Zoom), the student is responsible for setting up the infrastructure, and completing the form "Consent to Publicly Livestream a Presentation".

Formatting requirements: The thesis document must comply with relevant formatting requirements.

1. Thesis must use the department-approved title page layout: Document Template. A LaTeX template can be obtained from Catherine Copetas (copetas@cs.cmu.edu).
2. The title page must include a Technical Report (TR) number that the student should request from Catherine Copetas once the defense announcement goes out and is posted to the SCS Calendar of events.
3. The title page should acknowledge funding sources (grants your advisor may have had which supported your work).

The TR number should be requested as soon as the thesis defense is announced and posted to the SCS Calendar of Events. The correctness of the formatting of the thesis document should be verified with Catherine Copetas prior to final submission.

Deadlines and deliverables:

At the beginning of the final semester: Communicate your intention to propose/defend to the program administrators, so that they can ensure registration requirements are met (if applicable) and can help you through the process.

Several months in advance of the proposal/defense: Schedule a date for the proposal/defense with the committee. For the defense: start preparing the thesis document and request a TR number (see above).

Before the thesis proposal/defense, the entire thesis committee is expected to have read the entire proposal/thesis document; all committee members are encouraged to provide feedback to the candidate before the proposal/defense. To facilitate the process, the student is advised to share a draft of the proposal/defense well in advance of the proposal/defense date with the thesis committee. The student can reach a mutual agreement with the committee members about an appropriate timeline. We recommend having these conversations as the committee is formed.

Three weeks before the proposal/defense date: The advisor is encouraged to consult with the committee about the readiness of the proposal before announcing the oral presentation.

Ten business days before the proposal/defense date (mandatory): The student must send the following information to the program coordinator Alisha Roudebush aroudebu@andrew.cmu.edu:

1. The student's name as it should appear on the diploma
2. Thesis Title
3. Date, time, and location of the proposal/defense presentation
4. Thesis committee members: names, titles, affiliations, and email addresses
5. Thesis abstract: less than 350 words describing the thesis

6. A link to the proposal/thesis document for any outside faculty who wish to review
7. A PDF of a poster announcing the proposal/thesis presentation (Thesis Poster Template)
8. A zoom link for the proposal/thesis presentation and the completed "Consent to Publicly Livestream a Presentation" form, if applicable

The program coordinator posts the public announcement of the thesis defense.

In addition, the student **must** publicize the proposal/defense, typically by printing and posting 10 posters announcing the proposal to the SCS community (TCS/NSH/Gates).

Days before the proposal/defense*:* The S3D IT team can help set up the projection and zoom, if needed and asked in advance.

Day of the proposal/defense: The proposal defense starts with a presentation by the candidate (typically 30–40 minutes for a proposal, 45 minutes for the defense), followed by a question-and-answer period. The thesis committee chair(s) determines who may ask questions and in what order and brings the discussion to a close at the appropriate time. The question-and-answer period is followed by a closed-door session attended by only the members of the thesis committee and any interested faculty members, in which the committee decides on the outcome.

Catering is not common nor expected at proposals/defenses.

After the proposal: The student should take down the posters they posted.

The committee chair(s) must return the "Pass form" provided by the program administrator, recording the outcome of the proposal presentation as pass, conditional pass, and fail.

After the defense: The student should take down the posters they posted.

All members of the committee are required to sign a Final Oral Examination card, indicating that the student has passed the thesis oral examination.

After the committee has approved the final version of the dissertation, there are a number of additional required steps before the degree can be certified:

The student must create a PDF of the final version of the dissertation and verify with Catherine Copetas that the title page is correct. The student must then submit the following information to the SE program coordinator:

1. the PDF,
2. the email confirmation from Catherine Copetas about the correct title page, and
3. Complete the ProQuest ETD Submission Form.

The thesis committee chair, the Department Head, and the Dean sign a final certification sheet after the student submits the final version of the thesis.

The student must complete the Survey of Earned Doctorates at https://sed-ncses.org/login.aspx and send the confirmation to the SC program coordinator. This is required for graduation.

The student must complete the Graduating Student Data Sheet and return it to the SC Program Coordinator.

Once you have completed the required graduation forms, you must contact the S3D IT Services Team at s3d-help@andrew.cmu.edu to arrange for the return of any departmental equipment, including computers, monitors, keyboards, mice, headphones, or any other equipment purchased with departmental funds.

In addition, if you are the sole administrator of any virtual or physical servers, you must notify the IT team so that appropriate arrangements can be made for the transfer of administrative access or the retirement of those systems.

Students are responsible for returning all departmental equipment prior to leaving the program. **Failure to coordinate the return of departmental property may result in the student being responsible for any shipping, insurance, or other costs associated with recovering the equipment.**

The student must ensure no balance remains on your student account (late fees, insurance fees, etc.)

The student must sign into SIO and update the mailing address for Diploma Delivery.

The SC Program Coordinator will add the student to the S3D alumni page and email list.

8.7: Thesis Binding

It's up to each student to decide if they want to pursue binding.
The two options suggested for binding are:

1. Lulu
2. ProQuest

If you're looking to print and bind your thesis, those would be the go-to platforms. Lulu is often used for self-publishing and custom printing, while ProQuest is commonly used for academic thesis/dissertation submissions and distribution.

Policies:

- University Policy for Doctoral Student Status,
- University-level ABD status &, frequently asked questions

8.8: Offboarding Graduated Students

Important Offboarding Information for Graduating Students

All graduating students must complete the following steps prior to departure:

1. Return Keys and Departmental Equipment

- Please return your office keys directly to GHC 4107.
- Contact the **S3D IT Services Team** at **s3d-help@andrew.cmu.edu** to arrange the return of any departmental equipment, including:
    - Computers
    - Mice
    - Keyboards
    - Headphones
    - Monitors

      (Any items purchased with departmental funds)
- In addition to returning your Macbook to the S3D IT Services Team, you are required to log out of the "Find My" app for the returned device. If you need help with this process please reach out to the S3D IT Services Team.

2. Notify of Office Departure & Clean Out Space

- Let **Alisha/Connie** know your expected office departure date.
- Please ensure that all personal items and files are removed from your office before leaving.

3. Server Handover

- If you have sole administrative access to any physical or virtual servers, notify the **IT Services Team** to coordinate a proper handover or decommissioning.

4. Clear Your Student Account

- Ensure your student account is free of any outstanding balances, including late fees, insurance charges, or other fees.

5. Update Diploma Mailing Address

- Log in to **Student Information Online (SIO)** and verify or update your mailing address to ensure accurate diploma delivery.

6. Join the Alumni Network

- The SC Program Coordinator will add you to the **S3D alumni page and email list** so you can stay connected with our community.

SECTION 9: Department Policies & Protocols

9.1: Petition Procedures- for adding a course to current STAR list

The faculty have selected an initial set of approved courses in each category. These are subject to review from time to time to ensure that, if the course content changes, it remains consistent with the purpose of that STAR.

SC Ph.D. students may request that the faculty approve an additional course in one of the star categories. In general, if the request is approved, the course will be added to the list for other students to take for star credit. When a request is student-initiated, it is the student's responsibility to make a case supporting STAR status. Students should submit a request to the SC Ph.D. Program Director and the SC Ph.D. Program Administrator using the following template:

A. Your name
B. Name and number of the course
C. Course description or URL to course description
D. Which star requirement you want this course to satisfy
E. An indication of approval by your advisor.
F. Evidence, including quotes from the course description and syllabus with supporting links, to demonstrate that the course:
G. Matches the topic and fulfills the particular requirements of the star course category you have requested. Star courses should have some degree of breadth but are not expected to provide comprehensive coverage of a star category.
H. Assumes an undergraduate background in the relevant area–no more and no less
I. Uses multiple forms of evaluation (e.g., assignments, exams, projects, papers, …)
J. Is appropriate for Ph.D. studies in terms of depth and engagement with research. For example, if a course is primarily designed for master's students, a justification should be given that the course is also an appropriate preparation for Ph.D. studies. Sometimes a course that is missing engagement with research may be adapted for Ph.D. students through additional or replacement assignments that lead PhD students deeper into relevant research topics

Given sufficient information, requests received by the faculty should generally receive a response within 2 weeks if the request is made during a regular academic semester. Star

credit should generally be requested at least **2 weeks before the end of the semester before taking a course**, and preferably 2 weeks before the beginning of the registration period. This ensures students can register for a course before it fills up and avoid spending time on a course that is not in the end approved.

Courses will not, in general, be approved in two categories, but instead will be approved in the category that best fits the primary emphasis of the course (if any). If any exception to this principle is made, the student must choose which category to apply the course to and find a different course with which to fulfill the other requirement.

There is a precedent for approving an independent study for star credit, in the rare case where an appropriate independent study suits the student's needs better than any available course. The approval process is the same in this case, but the proposal submitted by the student should identify who would advise the independent study, what the output of the study will be and how it should be evaluated, the match to the appropriate star category, appropriateness of the course for Ph.D. study in terms of depth and engagement with research and should indicate advisor approval.

Course curricula may evolve over time, due to the advancing state of knowledge, the changing background and needs of students, or the strengths that a new instructor brings to bear on a course. Therefore, the faculty may re-examine star courses from time to time to verify the course continues to fulfill the requirements for a star. If it does not, star status may be withdrawn for future offerings of the course.

9.2: Department Policy for Withdrawing from a Course

Students must follow the University deadline for withdrawing from a course.
https://www.cmu.edu/hub/registrar/course-changes/index.html

Students taking undergraduate and master's level courses must follow the procedures and deadlines for adding, dropping, or withdrawing from courses as identified on the academic calendar. Information can be found at the Hub.

There is a separate calendar for doctoral level courses.

9.3: Master's Degree en route to a PhD Process and Requirements

Ph.D. students may request to have their academic progress formally recognized by receiving a **Master of Science in Societal Computing** degree after completing a

substantial portion of the Ph.D. program requirements. These requirements reflect the student's preparedness to develop a doctoral thesis proposal.

Note: *Immigration regulations may change what may be possible with respect to completing a Master's degree en route, or stopping with a Masters degree. International students considering these options should proactively consult the Office Of International Education.*

Requirements

To be eligible for the Master of Science in Societal Computing, students must complete the following:

- 48 units of core "Star" courses
- 36 units of elective courses
- 18 units of practicum
- One skill requirement, demonstrated through proficiency in speaking, writing, or computational skill

Additional Guidelines

- This course plan is equivalent to a **two-year master's program with no thesis requirement**.

- The degree is awarded **upon written request** to the **SC Ph.D. Program Administrator**, once the student has completed sufficient requirements demonstrating the learning objectives.

How to Request the Master's Degree

Students who wish to receive the master's degree while enrolled in the Ph.D. program may request it during the **Doctoral Student Review (DSR)** process, which is conducted each Fall and Spring semester. To do so, students should indicate their request in their **Student Statement** submitted as part of the DSR process and also notify the **Program Coordinator** by email.

The Program Coordinator will verify that all master's degree requirements have been satisfied before processing the request.

Requesting a Master's Degree in Lieu of Completing the Ph.D.

If a student is unable to complete the Ph.D. program due to circumstances such as research challenges, unsatisfactory academic progress, or other factors, they may request to continue in the master's program at their own expense, provided they are eligible to do so.

Such requests require approval from the student's **faculty advisor**, the **Department Head**, and the **Dean of Ph.D. Programs**.

International students considering this option should consult with the **Office of International Education (OIE)** as early as possible to understand the potential impact on their immigration status and ensure they remain in compliance with all applicable visa regulations.

9.4: PhD Student Work Hours, Vacations, and Time Off Expectations

S3D strongly supports a healthy work/life balance for students. Being at CMU means being surrounded by individuals who are both driven and ambitious, but getting a PhD is a marathon, not a sprint. We recognize the declining marginal productivity of additional hours invested in a week after a certain point and that the point where returns start to diminish is different for everyone. We encourage all our students to find a sweet spot that allows them to have sustainably high levels of productivity for the entirety of their program.

The guidelines outlined in the following sections aim to achieve two things: 1) provide guidance and consistency for handling certain academic and life events; and 2) establish a baseline for students to convey to them what the faculty deem reasonable in general as well as when something new or unexpected (e.g., a death in the family) occurs. In some rare cases, stipulations of an external funding source may override these guidelines.

We realize the close nature of student/advisor relationships and strongly encourage ongoing conversations where both parties discuss their preferences and define and continue to develop a healthy work relationship.

Regular Work Weeks

During normal work weeks, SC PhD students generally devote about 40 to 50 hours on average in total to their academic responsibilities, which include coursework, academic research, and serving as a teaching assistant. During semesters when a student is serving as a teaching assistant, they generally spend on average 10-15 hours per week on their teaching assistant responsibilities. If students find the teaching workload is out of line with the average hours as noted, they should first discuss this with the instructor, and if needed contact their advisor or the PhD program director.

In reality, and especially in the more advanced stages of the program, academic life often requires that more time is invested at certain periods to meet specific deadlines. If such situations occur, it is reasonable to take more rest time after the deadline has passed to maintain a healthy work/life balance.

Advisors and students are encouraged to talk about their regular work schedules and respect each other's communication boundaries when not working. Generally, meetings between students and advisors should be scheduled on weekdays during normal business hours unless an alternate time is mutually preferable. It is also expected that students do most of their research work on campus during business hours on weekdays. This is helpful for collaborating with other students and faculty, for avoiding feelings of isolation, and for taking advantage of and contributing to our mutually supportive research and education community. However, if campus presence is not necessary for a project, with their advisor's agreement, students may perform some of their work remotely or outside of normal business hours if that is more convenient or more conducive to their productivity.

When students find themselves struggling to meet their responsibilities, whether due to unexpected life events, having overcommitted themselves, or other reasons, they should discuss the situation with their advisor and consider options such as reducing their course load, asking instructors for extensions on assignments, taking an incomplete in a course, or reducing their research commitments. The department head, PhD program director, or an ombudsperson may also be good resources for students in this situation.

University Holidays

Generally, CMU students are not expected to work on the official university holidays (see https://www.cmu.edu/hr/benefits/time-away/holidays.html for the complete list of official university holidays and "winter break days" when the university is closed) or on other days when the university is officially closed (e.g. weather/emergency closures). Some students may wish to work on these days, and instead take time off on other days. We encourage this kind of flexibility, provided it is clearly communicated and agreeable to advisors.

Expectations for Time Off

Advisors are expected to be flexible in allowing their students to take a reasonable amount of time off as long as they are making good progress and meeting their academic responsibilities. In addition to university holidays and days when the university is closed, advisors are expected to approve, at a minimum, 10 days of vacation per year. This includes long weekends, short vacations, and religious holidays that are not one of the official university holidays.

The seasonal pattern of every research group is different, so it is impossible to state general rules regarding timing of vacation. With the exception of an unexpected emergency situation, students should coordinate time off with sufficient advance notice to minimize impact to individual or research group progress. In the unusual circumstance of a conflict regarding vacation between a student and advisor, the department can mediate.

The department does not keep track of graduate student work schedules.

Advisors may ask students who wish to take more than the typical amount of time off to make up work time or to take an unpaid leave of absence. With agreement from their advisors, sometimes students make up work by working remotely part time while traveling or by working on evenings or weekends before or after their time off. As research assistants, PhD students are expected to work on all days when the university is open for business even when classes are not in session, including Spring Break, Fall Break, in the summer months, and during the weekdays of the winter semester break period when the university is open (the university generally is closed for approximately seven or eight weekdays over the winter semester break period – see https://www.cmu.edu/hr/benefits/time-away/holidays.html for the list of days when the university is closed). However, many students arrange with their advisor to take most of their time off from academic activities during the times when classes are not in session.

Personal Issues

When students need to stay at home to take care of personal, family, or household responsibilities, they are encouraged to work from home. Generally, working from home due to personal issues should be temporary. Examples include working from home to care for a sick family member, to attend a routine medical appointment, to address a household maintenance issue, and due to weather affecting the ability to safely commute. Students are expected to communicate and discuss with their advisors such circumstances in advance.

Students who are not meeting their responsibilities due to extenuating or distressing circumstances should inform the department and/or seek help through CaPS or the appropriate means.

Absences Due to Illness

For minor illnesses such as a cold or the flu, students should stay home and rest if needed, and are encouraged to do so to not infect others. When illness may impact a student's research schedule or other CMU responsibilities, they should reach out to their advisors to inform them about their expected timeline for recovery and how their research or other activities may be affected. Advisors are expected to allow students extra time off to recover (beyond the typical 15 days away from academic responsibilities).

Students with a serious illness, chronic illness, or a disability should contact the Office of Disability Resources to request accommodations. The Office of Disability Resources may require medical documentation of the condition.

Civic Duties

Advisors are expected to be flexible in allowing students reasonable time off (in addition to the typical 15 days) to fulfill civic duties and obligations, such as jury duty and participating in elections. Advisors should be notified when these obligations occur so adaptations to research schedules can be made if necessary. Jury service that extends beyond two weeks may require a leave of absence. Students should inform the court that they are full-time students if called for jury duty.

Bereavement and Similar Personal Events

In the case of loss of a loved one, all students should have the opportunity to take time off work (in addition to the typical 15 days) and spend it with their families and loved ones to grieve. Advisors are expected to allow students extra time off in these circumstances, including allowing time for students to travel to be with their families. Students are expected to communicate their needs and plans to their advisors when it is practical to do so.

Birth or Adoption of a Child

See the university policy on student parental accommodation, which provides accommodations for students who are gestational parents as well as all doctoral students who are new parents.

Leave of Absence

In case of a protracted leave of absence, students must inform their advisor and the department and potentially initiate the formal process of taking extended leave from the PhD program. Students considering a leave of absence should discuss the possibility with their advisor as early as possible.

SECTION 10: Grading & Evaluation

10.1: Grading Scale/System

A student's progress in the Ph.D. program is measured along multiple dimensions. One of these dimensions is a student's performance in courses, and our expectation is that Ph.D. students earn a B- or better. Grades of C+ or below do not count towards program requirements.

10.2: Independent Study/Directed Research

An Independent Study course is appropriate for a learning activity that is neither covered by existing courses nor is in independent research. At the Ph.D. level, students tend to focus on formal coursework and independent research, so the independent study course is rarely taken. Please reach out to your Academic Program Coordinator for a form if you feel this is appropriate.

10.3: Doctoral Student Review-(DSR) Semi-Annual /Satisfactory Academic Standing

Evaluation and feedback on a student's progress are important both to the student and to the faculty. Students need information on their overall progress to make long-range plans. The faculty need to make evaluations to advise students, to make support decisions, and to write recommendations to potential employers.

The faculty meet at the end of each semester to make a formal evaluation of each student in the Ph.D. program. This meeting is called the "Doctoral Student Review" meeting. The purpose of having all the faculty meet together to discuss all the students is to ensure uniformity and consistency in evaluation across all the different areas, by all the different advisors, throughout the years of the SC Ph.D. program as it inevitably changes.

The faculty measure each student's progress against the goal of completing the Ph.D. program in a reasonable period of time. The evaluation considers all components of the program using indicators and information sources described below. Requirements need not be fulfilled in any particular order, but each student must show reasonable progress each semester toward satisfying the full set of requirements. Because the critical path to completing the Ph.D. is research, making early and regular research progress is the most important consideration. Through a Doctoral Student Review letter, the faculty inform

students of the results of this evaluation, which may include specific recommendations for future work or requirements that must be met for continued participation in the program.

Components and Indicators

In their evaluation, the faculty consider the following components, though naturally only some of these components will be applicable in any given semester; they are not equally important at every stage of a student's career, and each student will progress through the requirements as suits his or her individual needs:

- *Directed research:* Evaluated by research supervisor and other collaborating faculty.
- *Courses taken:* Evaluated by the course instructor—brief prose evaluation/summary grade.
- *Teaching:* Evaluated by the current advisor
- *Skills:* Writing, speaking, and computational by current advisor
- *Thesis:* Status summarized by the thesis advisor and commented by members of the thesis committee.
- *Other:* Lectures given, papers written, etc. evaluated by cognizant faculty.

The faculty's primary sources of information about the student are the student's advisor and the student's statement. The advisor is responsible for assembling the above information and presenting it at the faculty meeting. The student should make sure the advisor is informed about participation in activities and research progress made during the semester. Each student is asked to submit a summary of this information to the advisor at the end of each semester—the Student Statement for Doctoral Review at https://gsaudit.cs.cmu.edu.

This statement is used as student input to the evaluation process and as factual information on activities and becomes part of the internal student record. It is strongly recommended that the student and advisor meet prior to the faculty meeting to review the information provided in this statement.

Outcomes and Recommendations

Based on the above information, the faculty decide whether a student is making satisfactory progress in the Ph.D. program. If so, the faculty usually suggest goals for the student to achieve over the next semester. If not, the faculty make more rigid demands of the student; these may be long-term (e.g., finish your thesis within 1-1/2 years) or short-term (e.g., select, and complete one or more specific courses next semester; prepare a thesis proposal by next Doctoral Review meeting).

Ultimately, permission to continue in the Ph.D. program is contingent on whether or not the student continues to make satisfactory progress toward the degree. If a student is not making satisfactory progress, the faculty may choose to drop the student from the program.

The faculty also decides whether financial support (including tuition and stipend) should be continued for each student. Termination of support does not always mean termination from the program.

If you wish to appeal any decisions please follow the Graduate Student Appeal and Grievance Procedures below:

Summary of Graduate Student Appeal and Grievance Procedures

10.4: Satisfactory Academic Standing

Students are evaluated at the end of every semester through the Doctoral Review Process described in Section 10.3: Doctoral Student Review-(DSR). If a student is not making satisfactory progress, the faculty may choose to dismiss the student from the program. Typically, when students are first informed that their progress is not satisfactory through a DSR evaluation, the faculty provides concrete requirements that must be met in the following semester to be considered satisfactory progress in the next evaluation.

See summary of Graduate Student Appeal and Grievance Procedures

SECTION 11: Funding & Financial Support

11.1: Health Insurance Requirement

Student Health Insurance (SHIP)

Ph.D. students are required to maintain health insurance coverage throughout their enrollment.

If you enroll in **Carnegie Mellon University's Student Health Insurance Plan (SHIP)**, the University will cover **100% of the premium cost for individual student coverage**.

Students may also elect to purchase coverage for a partner, spouse, or dependents under SHIP; however, the University subsidy applies **only to the cost of the individual student**

coverage. Any additional premium for partner, spouse, or dependent coverage is the responsibility of the student.

Enrollment in the **Dental** and **Vision** plans is optional and requires an additional premium paid by the student.

Students who choose to waive SHIP and enroll in an approved alternate health insurance plan will **not** be eligible to receive the University's SHIP premium subsidy.

https://www.cmu.edu/health-services/student-insurance/plans.html

https://www.cmu.edu/sfs/billing/payments/monthly-plan/index.html

The HUB's website (https://www.cmu.edu/hub/new-grad/enrollment-finances.html) also has information specific to health insurance coverage and waivers for doctoral students.

11.2: Additional Sources of Internal & External Financial Support

We encourage students to seek their own external funding since often the award is prestigious (e.g., NSF or Hertz) or the source provides an opportunity to make professional connections (e.g., an industrial fellowship).

If a student receives an external fellowship/scholarship, they must notify the SC Ph.D. Program Administrator. The department supplements the stipends of students with an outside fellowship to meet the stipends of students with internal funding, plus a bonus: in a year when a student brings in a fellowship worth $X, that student gets 1% of X added to their stipend each month, for a total of 12% of X if the student takes a stipend all 12 months.

The department also pays a dependency allowance that is 10% of the S3D monthly base stipend per eligible dependent provided that your spouse or qualifying domestic partner earns less than 15% of the stipend amount.

11.3: Department Policy on Outside Employment

International students must contact the Office of International Education regarding their ability to hold employment.
Working (i.e., doing anything for pay) either within or externally to the university, beyond your responsibilities as a teaching assistant or research assistant, is a privilege, not a right.

Work is permitted under exceptional circumstances, and with the written approval of the student's advisor (or with the written approval of all advisors, in case of multiple advisors) and of the Societal Computing program director, the following is permissible:

- Outside consulting will be limited in time, and should consist of no more than **8 (eight) hours of consulting per week, and must be physically in Pittsburgh.**
- The purpose of the consulting must be closely related to the research area of the student and be clearly aligned with the student's thesis goals.
- The consulting project must be self-contained. In particular, it cannot use any Carnegie Mellon University intellectual property.
- Likewise, the project cannot make any use of university facilities (e.g., buildings), or equipment (e.g., laptops, or computing resources, including networking and email).
- Approval from the advisor(s) and the program director must be renewed every semester.

Students are responsible for understanding the tax implications and are encouraged to consult with a tax advisor if needed. International students should consult with OIE, as outside employment is usually forbidden.

Students who are not on a leave of absence must abide by all Carnegie Mellon rules and policies while performing these activities, including, but not limited to, rules governing potential conflicts of interest and ownership of intellectual property.

We require that students limit employment to follow university and government rules, but the more important principle is maintaining adequate focus and creative energy for the research that is at the core of the Ph.D. degree.

11.4 Leave of Absence (LOA)

Students requesting a Leave of Absence must complete and submit Leave of Absence Form prior to taking a leave. The leave of absence policy can be found here: https://www.cmu.edu/hub/registrar/leaves-and-returns/index.html

Students taking a Leave of Absence during their time at Carnegie Mellon University are required to return all university property prior to the start of their leave. This includes, but is not limited to, computers, office keys, and any other departmental equipment assigned to them.

Returned equipment will be reissued to the student upon their return from leave, subject to availability and departmental procedures.

If university property is not returned before the Leave of Absence begins, the student will

be responsible for all costs associated with returning the equipment to Carnegie Mellon University, including shipping, insurance, and any related expenses. All such costs are the sole responsibility of the student.

SECTION 12: Graduate Student Handbook

Graduate Student Handbook Suite.
https://www.cmu.edu/graduate/resources/index.html
