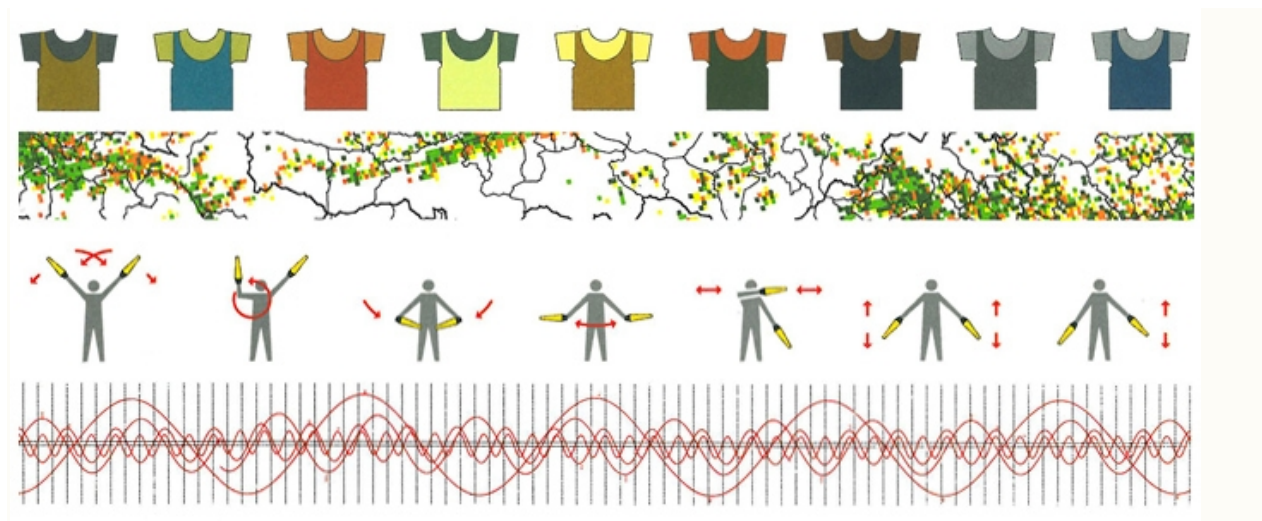


# Master of Science in Science, Technology & Society

## Graduate Student Handbook



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## Who are the Drexel STS Faculty?



**Kelly Joyce, Ph.D.**  
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*Research Areas: Science and Technology Studies, Healthcare and Medicine, Qualitative Social Science Methods, Aging*



**Lloyd Ackert, Ph.D.**

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*Research Areas: Tracing of developed scientific, laboratory-based methods to investigate a holistic vision of nature known as the "cycle of life," through late-18th to mid-20th century sciences as varied as biogeography, organic chemistry, plant physiology, microbiology, soil science, and ecosystem ecology.*



**Peter Amato, Ph.D.**

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*Research Areas: Ethics, Social and Political Philosophy, Philosophy in Literature*



**Jesse Ballenger, Ph.D.**

Associate Teaching Professor of Health Administration, CNHP  
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**Robert Brulle, Ph.D.**

Professor of Sociology & Environmental Science  
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*Research Areas: Critical Theory, Social Movements, Social Change, Environmental Sociology*



**Robert D'Ovidio, Ph.D.**

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**Mary Ebeling, Ph.D.**

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**Christian Hunold, Ph.D.**

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*Research Areas: Comparative Politics, Environmental Politics, Political Theory*



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**Michael Khoo, Ph.D.**

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*Research Areas: Information Systems, Educational Technologies, Digital Libraries*



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*Research Areas: Continental Philosophy, Feminist Approaches to Technology*



**Scott Knowles, Ph.D.**

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**Brent Luvaas, Ph.D.**

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**Jonson Miller, Ph.D.**

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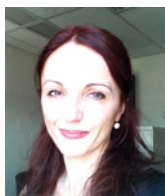
*Research Areas: History of Technology, Engineering Studies, Military and Technology*



**Gwen Ottinger, Ph.D.**

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*Research Areas: Science and Technology Studies, Environmental Justice, Expertise, Environmental Ethics, Energy Policy, Engineering Studies, Renewable Energy, Engineering Education, Politics of Science and Technology*



**Flavia Padovani, Ph.D.**

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*Research Areas: Issues in both history and philosophy of science (especially the interplay between science and philosophy in the early twentieth century) and general philosophy of science (the nature of scientific principles, the structure of scientific theories and theory change, and problems surrounding the intertwined themes of measurement and coordination)*



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**Mimi Sheller, Ph.D.**

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Professor of Sociology  
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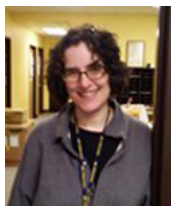
*Research Areas: Sustainable Mobility and Mobility Justice, Caribbean Mobilities, Energy Transitions*



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*Research Areas: Autism, Colony Collapse Disorder, Role of Affect in Science and Medicine, Bioethics*



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*Research Areas: History of Technology, Labor, Race, Diversity in STS, Nanotechnologies*

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## MS in STS Curriculum

The program requires 45.0 credits of coursework. At least 36.0 credits must be in SCTS courses. This degree can be pursued either full-time or part-time. Soon after matriculation, the student should arrange to meet with the director of MS in STS to outline his or her plan of study. Required courses total 24 credits. Remaining credits are chosen from a list of electives.

### Basic Requirements (12 credits)

SCTS 501	Introduction to Science, Technology and Society	3.0
SCTS 502	Research Methods	3.0
SCTS 503	Advanced Research Methods	3.0
SCTS 504	STS Theories	3.0

### Advanced Requirements (12 credits)

Ethics, Values, Identities and Culture (*select two of the following*) 6.0

SCTS 610	Material Culture
SCTS 612	Medical and Healthcare Ethics
SCTS 614	Technology, Progress and Determinism
SCTS 615	The Biopolitics of Health
SCTS 600	Contemporary Feminist Theory
SCTS 620	Medicine, Technology and Science
SCTS 650	Global Subjects of Biocapital
SCTS 651	Transnational Science and Technology
INFO 679	Information Ethics
PBHL 824	Public Health Ethics

Science and Technology Policy (*select one of the following*) 3.0

SCTS 570	Environmental Policy
SCTS 571	Science and Technology Policy
SCTS 641	Risk and Disaster Policy
SCTS 643	Contemporary STEM Workforces: Organizations of Labor in Lab, Shop and Clinic
SCTS 645	War and Technoscience
PLCY 509	Sustainability and Public Policy
COM 650	Telecommunications Policy in the Information Age
INFO 780	Information Policy

Science, Technology and Society Lab (*select one of the following*) 3.0

SCTS 705	Identity and Intersectionality Lab
SCTS 703	Connected Mobility Lab
SCTS 710	Special Topics in STS Lab

### Thesis or Project (0.5-9.0 credits)

SCTS 798	Master's Research	0.5-9.0
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## Electives (The remaining balance of credits for the total of 45)

### Suggested Electives

PBHL 516	Introduction to Public Health
SCTS 584	Historiography of Science
SCTS 640	STS Perspectives on Risk and Disaster
SCTS 660	Theoretical and Sociological Aspects of Measurement
SCTS 665	Advanced Topics in Philosophy of Science
SCTS 639	Politics of Life
COM801-501	Contemporary Theory
SCTS 697	Internship in Science, Technology and Society
SCTS 790	Special Topics in Science, Technology and Society
SCTS 799	Independent Study in Science, Technology and Society
COM 690	Special Topics
COM 701	Contemporary Social Theory
COM 704	Research Methods in Communication
COM 705	Data Analysis in Communication
COM 720	Critical Theory
PLCY 504	Methods of Policy Analysis
PSY 612	Psychology of Human-Computer Interaction Design
PSY 712	History and Systems
MGMT 602	Managing Technology Innovation

### Remaining Electives

Any remaining electives may be taken in other schools and colleges in the university, chosen in consultation with the Director of the MS in Science, Technology and Society program.

### Total Credits

**45.0**

## WORKSHEET: MS in STS Checklist

This form can help you keep track of your progress. Please look at the [Course Catalog](#) for course codes. You can also keep track of your progress in [Degree Works](#).

MS in STS	Credits	Date Taken	Grade
<b>Basic Requirements (12 credits)</b>			
SCTS 501 Intro to Science, Technology and Society	3		
SCTS 502 Research Methods	3		
SCTS 503 Advanced Research Methods OR PBHL 520 Principles of Biostatistics; PLCY 504 Methods of Policy Analysis; INFO 555 Introduction to Geographic Information Systems	3		
SCTS 504 STS Theories	3		
		<b>_____ of 12 credits completed</b>	
<b>Advanced Requirements (12 credits)</b>			
<i>Ethics, Values, Identities and Culture</i>	6		
<i>Science and Technology Policy</i>	3		
<i>Science, Technology and Society Lab</i>	3		
		<b>_____ of 12 credits completed</b>	
<b>Electives (21 credits)</b> <i>*If pursuing a master's project or thesis, .5-9 credits of SCTS 798 can count toward the degree.</i>			
		<b>_____ of 21 credits completed</b>	
<b>Total Credits for MS degree</b>		<b>_____ of 45 credits completed</b>	

## Sample Plans of Study

**You do not have to follow any of these plans of study.** These sample plans of study are **suggestions only**; they aim to show which courses cluster around particular topics. Meet with faculty to create a plan of study that fits **your** intellectual pursuits.

### Health and Medicine Focus (Suggested Courses)

#### Basic Requirements (12 credits)

SCTS 501	Introduction to Science, Technology and Society	3.0
SCTS 502	Research Methods	3.0
SCTS 503	Advanced Research Methods	3.0
SCTS 504	STS Theories	3.0

#### Advanced Requirements (12 credits)

Ethics, Values, Identities and Culture (*select two of the following*) 6.0

SCTS 600	Contemporary Feminist Theory
SCTS 612	Medical and Healthcare Ethics
SCTS 615	The Biopolitics of Health
SCTS 620	Medicine, Technology and Science
PBHL 824	Public Health Ethics

Science and Technology Policy (*select one of the following*) 3.0

SCTS 570	Environmental Policy
SCTS 571	Science and Technology Policy
SCTS 641	Risk and Disaster Policy
SCTS 643	Contemporary STEM Workforces: Organizations of Labor in Lab, Shop and Clinic

Science, Technology and Society Lab (*select one of the following*) 3.0

SCTS 705	Identity and Intersectionality Lab
SCTS 703	Connected Mobility Lab
SCTS 710	Special Topics in STS Lab

#### Electives (the remaining balance of credits for the total of 45)

##### Suggested Electives

PBHL 516	Introduction to Public Health
SCTS 640	STS Perspectives on Risk and Disaster
SCTS 639	Politics of Life
SCTS 697	Internship in Science, Technology and Society
SCTS 790	Special Topics in Science, Technology and Society
SCTS 799	Independent Study in Science, Technology and Society
INFO 555	Introduction to Geographic Information Systems
INFO 648	Healthcare Informatics
INFO 680	US Government Information
PBHL 520	Principles of Biostatistics

PBHL 560	Issues in Global Health
PBHL 615	Perspectives on Gender, Race, Ethnicity, and Social Class
PBHL 640	Environmental Health
PBHL 642	Healthy Housing & Built Environment

Remaining electives

Any remaining electives may be taken in other schools and colleges in the university, chosen in consultation with the Director of the MS in Science, Technology and Society program.

**Total Credits**

**45.0**

## Environment and Sustainability (Suggested Courses)

### Basic Requirements (12 credits)

SCTS 501	Introduction to Science, Technology and Society	3.0
SCTS 502	Research Methods	3.0
SCTS 503	Advanced Research Methods	3.0
SCTS 504	STS Theories	3.0

### Advanced Requirements (12 credits)

Ethics, Values, Identities and Culture (*select two of the following*) 6.0

SCTS 600	Contemporary Feminist Theory
SCTS 614	Technology, Progress and Determinism
SCTS 650	Global Subjects of Biocapital
SCTS 651	Transnational Science and Technology

Science and Technology Policy (*select one of the following*) 3.0

SCTS 570	Environmental Policy
SCTS 571	Science and Technology Policy
SCTS 641	Risk and Disaster Policy
SCTS 645	War and Technoscience
PLCY 509	Sustainability and Public Policy

Science, Technology and Society Lab (*select one of the following*) 3.0

SCTS 705	Identity and Intersectionality
SCTS 703	Connected Mobility Lab
SCTS 710	Special Topics in STS Lab

### Electives (the remaining balance of credits for the total of 45)

Suggested Electives

SCTS 640	STS Perspectives on Risk and Disaster
SCTS 660	Theoretical and Sociological Aspects of Measurement
SCTS 697	Internship in Science, Technology and Society
SCTS 790	Special Topics in Science, Technology and Society
SCTS 799	Independent Study in Science, Technology and Society

ENVP 522	Environmental Law
ENVP 533	Environmental Regulations
ENVP 720	Environment Cost-Benefit Analysis
ENVP 760	Social Change and Environment
ENVP 875	Environmental Justice
ENVP 880	Environment and Society
ENVP 501	Chemistry of the Environment
ENVP 505	Biostatistics
ENVP 708	Environmental GIS
PBHL 640	Environmental Health
PBHL 642	Healthy Housing & Built Environment

#### Remaining Electives

Any remaining electives may be taken in other schools and colleges in the university, chosen in consultation with the Director of the MS in Science, Technology and Society program.

#### Total Credits

45.0

### Information Identities and Networks (Suggested Courses)

#### Basic Requirements (12 credits)

SCTS 501	Introduction to Science, Technology and Society	3.0
SCTS 502	Research Methods	3.0
SCTS 503	Advanced Research Methods	3.0
SCTS 504	STS Theories	3.0

#### Advanced Requirements (12 credits)

Ethics, Values, Identities, and Culture (*select two of the following*) 6.0

SCTS 600	Contemporary Feminist Theory
SCTS 610	Material Culture
SCTS 614	Technology, Progress and Determinism
INFO 679	Information Ethics

Science and Technology Policy (*select one of the following*) 3.0

COM 650	Telecommunications Policy in the Information Age
INFO 780	Information Policy

Science, Technology and Society Lab (*select one of the following*) 3.0

SCTS 705	Identity and Intersectionality
SCTS 703	Connected Mobility Lab
SCTS 710	Special Topics in STS Lab

#### Electives (the remaining balance of credits for the total of 45)

#### Suggested Electives

SCTS 697	Internship in Science, Technology and Society
SCTS 790	Special Topics in Science, Technology and Society
SCTS 799	Independent Study in Science, Technology and Society
PSY 612	Psychology of Human-Computer Interaction Design
COM 655	Ethnography of Communication
DIGM 501	New Media: History, Theory and methods
DIGN 502	Advanced New Media Topics
INFO 515	Research in Information Organizations
INFO 520	Social Context of Information Professions
INFO 648	Healthcare Informatics
INFO 680	US Government Information
INFO 682	Storytelling
INFO 717	Cyber-Computer Crime Law
INFO 718	Cybersecurity, Law and Policy

#### Remaining Electives

Any remaining electives may be taken in other schools and colleges in the university, chosen in consultation with the Director of the MS in Science, Technology and Society program.

#### Total Credits

45.0

### Transnational Science, Technology and Society (Suggested Courses)

#### Basic Requirements (12 credits)

SCTS 501	Introduction to Science, Technology and Society	3.0
SCTS 502	Research Methods	3.0
SCTS 503	Advanced Research Methods	3.0
SCTS 504	STS Theories	3.0

#### Advanced Requirements (12 credits)

Ethics, Values, Identities and Culture (*select two of the following*) 6.0

SCTS 600	Contemporary Feminist Theory
SCTS 610	Material Culture
SCTS 614	Technology, Progress and Determinism
SCTS 650	Global Subjects of Biocapital
SCTS 651	Transnational Science and Technology

Science and Technology Policy (*select one of the following*) 3.0

SCTS 570	Environmental Policy
SCTS 571	Science and Technology Policy
SCTS 641	Risk and Disaster Policy
SCTS 645	War and Technoscience

Science, Technology and Society Lab (*select one of the following*) 3.0

SCTS 705	Identity and Intersectionality Lab
SCTS 703	Connected Mobility Lab
SCTS 710	Special Topics in STS Lab

### **Electives (the remaining balance of credits for the total of 45)**

#### **Suggested Electives**

SCTS 640	STS Perspectives on Risk and Disaster
SCTS 697	Internship in Science, Technology and Society
SCTS 790	Special Topics in Science, Technology and Society
SCTS 799	Independent Study in Science, Technology and Society
COM 686	International Communication
PBHL 560	Issues in Global Health

#### **Remaining Electives**

Any remaining electives may be taken in other schools and colleges in the university, chosen in consultation with the Director of the MS in Science, Technology and Society program.

### **Total Credits**

**45.0**



## Administrative FAQs

### How do I contact my academic advisor?

The Director of STS is your primary advisor. To choose a thesis advisor or work with professors about intellectual and career goals, please view the “Planning Your Thesis” and “Meeting with Faculty” sections of the STS Graduate Student Handbook.

### How do I register for classes?

All MS and BS/MS students are registered on a quarter based schedule. Courses that are being offered throughout the academic year can be viewed in the Term Master Schedule ([https://duapp2.drexel.edu/webtms\\_du/app](https://duapp2.drexel.edu/webtms_du/app)).

In order to register for courses, a student may not have any holds placed on their account. To register for courses: log in to DrexelOne (<https://one.drexel.edu/web/university>), and select the Student Tab. Under the registration section on the left hand side, you may select “Look-up Classes to Add,” to look-up classes offered in each degree program, or you may select “Add/ Drop Classes,” where you can fill in the course number of the class you want to add.

**All Master’s courses must be 500 level courses or higher. To register for a course outside of the STS department, or to have a course outside of the STS department count towards your degree, please contact the MS in STS program director for more information and approval.**

### How do I change my degree program?

This can be discussed during an advising session. For students changing to a different degree level within a program or between programs which are at the same degree level or below, the graduate program advisor must submit a **Major/Program Transfer Application and a new plan of study** to the Office of Graduate Studies for final approval.

When changing degrees (from Ph.D. to MS or MS to Ph.D.) the student is held to the requirements that are in effect for that degree at the time of degree change and not at the time of original matriculation.

### What are academic warning, probation, suspension, and dismissal?

Please visit: <http://www.drexel.edu/provost/policies/overview/>

### What is the minimum GPA requirement for the STS program?

Continuation in graduate studies requires satisfactory progress toward a graduate degree. Evidence of such progress includes maintenance of a minimum 3.0 cumulative grade point average (in the student's program of study) each term, and an overall cumulative GPA of 3.0 in order to graduate.

The progress of each student is reviewed each term. Failure to maintain the minimum 3.0 program-of-study-cumulative GPA will result in placement on probation. Any student on probation must not only achieve a 3.0 minimum cumulative average within two successive terms following the term in which the deficiency occurred, but must also maintain at least 3.0 minimum term average in any term in which he or she is on probation. Failure to meet either of these requirements will subject the student dismissal at the discretion of the Associate Vice Provost for Graduate Studies.

### What is full/part/half time credit load?

Less than half-time status: 0.0 to 4.49 credits

Half-time status: 4.5 to 5.99 credits

Three-quarter-time status: 6 to 8.99 credits

Full-time status: 9 or more credits

\*BS/MS part-time status: 1.0 – 11.0 credits

\*BS/MS full-time status: 12.0 – 20.0 credits

Please note: to be eligible for Federal Student loans you must be enrolled at least Half-time status every graduate quarter. Graduate students are considered to be full time students for the academic year when they are full-time students for 3 quarters of the academic year. Nominally these quarters are Fall, Winter and Spring. Visit Drexel Central for more information.

### **What are “holds” on my record and how do I get them removed?**

There are several different holds that may be placed on your account. The most common are academic, financial, and student immunization hold. All of these holds will prevent you from registration, receiving your transcript, and viewing your grades. If the hold is an “academic hold” please contact your advisor as soon as possible.

For financial holds, contact Drexel Central for further assistance at <http://drexel.edu/drexelcentral/about/contact/>.

For an immunization hold please contact the Office of Health Insurance & Immunizations at [http://drexel.edu/studentaffairs/support\\_health\\_services/health\\_insurance\\_immunizations/](http://drexel.edu/studentaffairs/support_health_services/health_insurance_immunizations/)

### **What is the max credit limit I can take?**

A student may register for a maximum of 15 credits per term, of which no more than 9 may be research. A student needs to be registered for at least 9 credits to be considered as having full time status. Accelerated BS/MS students may register for a maximum of 20.0 credits per quarter. In order to maintain undergraduate status, no more than 9.0 can be graduate level courses. Depending on the school and department offering and STS approved course, BS/MS students may need to contact the department’s administrator and course instructor to be approved for registration.

### **Can I take classes online?**

Yes, online classes are offered when available throughout the academic year.

### **Where can I find out which courses fulfill STS requirements?**

Please visit:

<http://catalog.drexel.edu/graduate/collegeofartsandsciences/sciencetechnologyandsociety/#degreerequirementstext>

### **I have a learning disability, how do I get accommodations?**

Please visit your advisor and contact the Office of Disability Resources, or <http://www.drexel.edu/oed/disabilityResources/students/>

### **If I don’t attend for a quarter, do I have to re-apply?**

Graduate students who have withdrawn from the university or who have not been enrolled for four or more terms must seek readmission to the University to resume their studies. This process is equivalent to a new application to enroll in the program. Master's level students can request readmission from their departmental Graduate Advisor.

### **How long does it take to complete the MS in STS program?**

The typical length of study for the STS program is two years (45 credits in total must be completed for both the thesis and non-thesis options). University policy states: For master's degree programs, the time to completion is five years after matriculation. BS/MS students should contact their advisor for more information regarding this issue.

**For more information, or any questions, please contact your academic advisor or visit the Office of Graduate Studies online at: <http://www.drexel.edu/provost/graduatestudies/policies/>**

## Accelerated BS/MS in STS: Requirements and Information

### Why do a BS/MS in STS?

As an interdisciplinary field, STS is great option for students interested in the social sciences, medical humanities, social implications of STEM, digital infrastructures, and environment and sustainability.

Students in the BS/MS program can either select to do a thesis, project, or non-thesis master's degree. Students who plan on completing a thesis should have an idea of their research area prior to starting their MS courses. Students enrolled in the BS/MS program complete the same curriculum as the standalone master's students, but are concurrently enrolled in undergraduate courses throughout their time as a master's student.

### Who can enroll in the BS/MS STS program?

The accelerated BS/MS Program provides talented undergraduate students with a unique opportunity. Students with a GPA of at least a 3.3, in good academic standing, and enrolled in the five year co-op program are eligible. Students officially enter the program after the completion of 90 credit hours and before completion of 120 credit hours (usually the pre-junior year).

### How can I apply?

Students must meet with their academic advisor in their undergraduate major to see if they qualify for the BS/MS program. Following this initial meeting, the student should meet with the Director of STS to discuss if STS is a good match for the student. For more information about acceptance to any BS/MS program, visit these links:

#### Drexel Accelerated Degrees

<http://www.drexel.edu/undergrad/academics/accelerated-degrees/>

#### STS BA/BS/MS Program

<http://drexel.edu/sts/academics/accelerated-MS/>

#### Recent BS/MS Student Profiles

<http://askmagazine.org/what-does-an-sts-student-look-like/>

### Is it tough to complete the BS/MS?

BS/MS students are highly focused, motivated students. Carrying a full undergraduate course load while taking 1-3 graduate level courses can be daunting. With proper time-management and planning, though, pursuing a BS/MS is a rewarding opportunity that opens career and graduate goals.

### Sample BS/MS without Thesis Timeline (5yr, 3 co-op)

	Fall	Winter	Spring	Summer
Freshman (Yr 1)	UG Class	UG Class	UG Class	
Sophomore (Yr 2)	UG Class	UG Class	Co-op	Co-op
Pre-Junior (Yr 3)	UG Class	UG Class + Grad (1-2)	Co-op	Co-op
Junior (Yr 4)	UG Class + Grad (1-2)	UG Class + Grad (1-2)	UG Class + Grad (1-2) OR Co-op	Co-op OR UG Class + Grad (1-2) OR off
Senior (Yr 5)	UG Class + Grad (1-2)	UG Class + Grad (1-2)	UG Class + Grad (1-2)	

*\*Note: Students in a 4 +1 program will have a modified schedule. Co-op will be completed in the third year and the fifth year will be graduate status.*

### Sample BS/MS with Thesis Timeline (5yr, 3 co-op)

	Fall	Winter	Spring	Summer
Freshman (Yr 1)	UG Class	UG Class	UG Class	
Sophomore (Yr 2)	UG Class	UG Class	Co-op	Co-op
Pre-Junior (Yr 3)	UG Class	UG Class + Grad (1-2)	Co-op (class on co-op)	Co-op (class on co-op)
Junior (Yr 4)	UG Class + Grad (1-2) <i>Select thesis advisor</i>	UG Class + Grad (1-2) <i>Begin literature review (indep. study)</i>	UG Class + Grad (1-2) OR Co-op <i>Continue literature review; craft possible research questions</i>	Co-op OR UG Class + Grad (1-2) OR off <i>Preliminary research; refine research questions; create plan</i>
Senior (Yr 5)	UG Class + Grad (1-2) <i>3.0 thesis credits</i>	UG Class + Grad (1-2) <i>3.0 thesis credits</i>	UG Class + Grad (1-2) <i>3.0 thesis credits; thesis defense</i>	

## Conducting Original Research

MS in STS students can complete their degree solely through coursework. This is a valuable tactic as it provides solid training in STS theories, methods and research findings. Some students, though, may want to conduct original research as part of their coursework. The MS in STS program has three mechanisms to do so: an independent study, a master's project or a master's thesis. The main difference between the three is one of scale.

## Independent Study

The MS in STS program offers a course called SCTS 799: Independent Study in Science, Technology and Society. This course can be taken for .5-3 credits. An independent study allows a student to study a topic in-depth that may not be covered in regularly offered coursework. To pursue an independent study, a student should identify a faculty with whom to work. Together the faculty and student develop readings, assignments and meeting times. Faculty have final say on whether to advise an independent study or not. The Assistant Director for the Center for STS will register a student for SCTS 799.

## Master's Projects

A master's project provides an opportunity to investigate a topic related to STS in more depth than an independent study, but less depth than a thesis. Choosing to do a master's project also provides more flexibility in the form of the final product than the thesis, which must be a written scholarly paper. Students working on a master's project will conduct a literature review relevant to their project, collect original data and then share findings in *one final product* that will be decided by the student and their faculty advisor. Final products can be things such as a white paper, an academic paper, or multi-media format. Students should submit a 2-3 page master's project preliminary proposal and a graduate transcript to Irene Cho, the Assistant Director of the Center for STS, before they complete 27 credits. If attending school full-time, this will be at the end of your third quarter. Your preliminary proposal will be due in the 6<sup>th</sup> week of the quarter that you submit it. The preliminary proposal should include the name of a potential faculty advisor, the central research questions, STS literatures that will be engaged, research methods to be used, and output of the project. Prior to writing the preliminary proposal, students should consult Larry Milliken, Liaison Librarian for the humanities and social sciences, to identify relevant databases for literature searches and other research resources. Ms. Cho will give the proposals to the STS graduate committee for their review and approval.

## Master's Theses

Writing a master's thesis is an intense experience, requiring usually a year or more of work. Students should submit a 2-3 page master's thesis preliminary proposal and a graduate transcript to Irene Cho, Assistant Director of the Center for STS, before they complete 27 credits. If attending school full-time, this will be at the end of your third quarter. Your preliminary proposal will be due in the 6<sup>th</sup> week of the quarter that you submit it. The proposal should include the name of a potential faculty advisor, the central research questions, STS literatures that will be engaged, research methods to be used, and output of the project. Prior to writing the preliminary proposal, students should consult Larry Milliken, Liaison Librarian for the humanities and social sciences, to identify relevant databases for literature searches and other research resources. After all other requirements are completed, the M.S. student defends the thesis at a final oral examination. Ms. Cho will give the proposals to the STS graduate committee for their review and approval.

## Master's Project Basics

### What is a master's project?

The master's project provides an opportunity to systematically investigate an STS topic of interest. It should present an original argument that is situated in a systematic review of existing relevant STS research and includes original data collection. The project must have a focus that falls within science, technology, and society topics. It must be produced under the guidance of an approved faculty advisor. The faculty advisor has the final say about whether to advise a project or not. You should work with your faculty advisor to identify the output of the project. Master's projects can result in a web site, white paper, conference paper, etc. You should choose **one form** of output (Do not try to do multiple ones!).

### When should I start thinking about the master's project?

You should be thinking about your project, if only broadly, from your first enrollment in the STS Master's Degree Program. Make appointments with faculty to brainstorm about possible topics and how these might contribute to existing research. When possible, direct your papers and assignments in your classes toward aspects of your topic. This will help you cultivate the foundational knowledge you will need for your research.

### Who can be my advisor?

Any Drexel faculty member affiliated with the STS program or approved by the STS program director can be your primary project advisor. Faculty are not required to advise master's projects, but will decide whether they will advise a project or not. It is your responsibility to find an advisor. Your advisor will provide general guidance. He or she will help you refine your topic and develop your research questions and methods. Most students choose faculty members they have worked with in courses.

### How do I work with my faculty mentor?

After doing the initial research on your topic, prepare a 1-2 paragraph abstract, a preliminary bibliography (approximately ten to fifteen books or journal articles), and a brief outline before approaching a possible advisor. This information will help make the meeting a productive one. With your faculty advisor, you should discuss your anticipated graduation date, and agree on a timetable for one-on-one meetings and submission of drafts. It is your responsibility to keep your advisor apprised of your progress. Do not start gathering data or creating project output until the STS graduate committee has approved your topic.

Generally, your advisor will need two weeks or so to review and comment on project drafts. Don't expect your advisor to return your work in a day or two, whether it is an early draft or the final copy. Ask your advisor how they would like to coordinate feedback from the committee, and realistic expectations for turnaround time. Some advisors or committees, for example, might require that you submit a draft two weeks before you need it returned. It is also your responsibility to see that the final project is free from spelling and grammatical errors; your advisor is not responsible for line-by-line editing.

### Who is on my project committee?

Your project committee will be comprised of three faculty: a primary faculty advisor and two faculty who are committee members. The two faculty who are committee members will review your project once it is finished and be present at your project oral defense. You can also consult them during the research and writing process for input and guidance.

## Thesis Basics

### What is a master's thesis?

The master's thesis is a scholarly paper of approximately 10,000 – 17,500 words (roughly 40-70 pages) that is based on original research. It should present an original argument that is situated in a systematic review of existing relevant STS research and includes original data collection. The thesis must have a focus that falls within science, technology, and society topics. It must be written under the guidance of an approved faculty advisor. The faculty advisor has the final say about whether to advise a thesis or not.

To get a better sense for format and content, read some previous MS in STS theses. A list of authors and titles are posted at: <http://www.drexel.edu/sts/academics/ms-STS/alumni/> They are available at Hagerty Library.

### When should I start thinking about the thesis?

You should be thinking about your thesis, if only broadly, from your first enrollment in the STS Master's Degree Program. Make appointments with faculty to brainstorm about possible topics and how these might contribute to existing research. When possible, direct your papers and assignments in your classes toward aspects of your thesis topic. This will help you cultivate the foundational knowledge you will need for your thesis work.

### Who can be my advisor?

Any Drexel faculty member affiliated with the STS program or approved by the STS program director can be your primary thesis advisor. Faculty are not required to advise master's theses, but will decide whether they will advise a thesis or not. It is your responsibility to find an advisor. Your advisor will provide general guidance. He or she will help you refine your topic and develop your research questions and methods. Most students choose faculty members they have worked with in courses.

### How do I work with my faculty mentor?

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Generally, your advisor will need two weeks or so to review and comment on thesis drafts. Don't expect your advisor to return your thesis in a day or two, whether it is an early draft or the final copy. Ask your advisor how they would like to coordinate feedback from the committee, and realistic expectations for turnaround time. Some advisors or committees, for example, might require that you submit a draft two weeks before you need it returned. It is also your responsibility to see that the final thesis is free from spelling and grammatical errors; your advisor is not responsible for line-by-line editing.

### Who is on my thesis committee?

Your thesis committee will be comprised of three faculty: a primary faculty advisor and two faculty who are committee members. The two faculty who are committee members will read your thesis once it is finished and be present at your thesis oral defense. You can also consult them during the research and writing process for input and guidance.

## Project/Thesis Full Proposal Structure

Meet with your advisor to discuss the format of your full proposal; they may have specific requirements. In contrast to the 2-3 page preliminary proposal that goes to the STS graduate committee for review, the full proposal will be read by your primary faculty advisor and two committee members. Here is one possible format for your proposal:

Your thesis full proposal should be no more than 5-10 pages and should include cover the following:

- ❖ **Project Overview** (0.5-1 page)
  - A summary of other sections of the proposal
  - A one line description of the project
  - Background / context for project / articulation of contemporary problem being addressed
  - 2-3 intellectual merits (informs research questions)
  - Broader impacts
- ❖ **Background description of problem and context** (1 page)
- ❖ **Intellectual Merits** (1-2 pages)
  - 2 to 3 scholarly conversations your research contributes to
  - Should inform research questions
- ❖ **Study Design** (1-2 pages)
  - Description of methods
  - Description and justification of data sources or fieldsites
  - Description of interlocutors/participants (if applicable)
  - Sample set of interview questions (if applicable)
  - Schedule of work
- ❖ **Broader Impacts** (.5-.75 page)
  - Output (e.g., conference presentations, results to informants, white paper, thesis, etc.)
  - How it will help us understand X (and Y)
- ❖ **Bibliography**
- ❖ **Outline of Project/Thesis**



## Project/Thesis Checklist and Tips

- ❖ Make appointments with professors to discuss and identify possible research topics in your first two quarters of the graduate program.
- ❖ Meet with Larry Milliken, Liaison Librarian for the humanities and social sciences, to better understand research resources and databases.
- ❖ Choose an approved faculty advisor.
- ❖ Meet regularly with your faculty advisor as you work on your research and writing.
- ❖ Working with your faculty advisor, identify and invite two faculty to be members of your committee.
- ❖ A short research proposal must be submitted and discussed by the committee prior to beginning research.
- ❖ Students are responsible for determining if they need human subjects/IRB approval for their research.
- ❖ A student is responsible for communicating with his or her primary advisor and committee members about how and how often they will meet and provide feedback. For example, drafts of research documents may need to be submitted to committee members at least two weeks before comments are needed. (This may vary by committee, so check with them to see how they want to work with you).
- ❖ Prepare and schedule an oral defense.

For those pursuing a thesis, the following deadlines/processes apply:

- ❖ Fill out a thesis approval form and submit it to the Office of Graduate Studies: This form is available at: <http://www.drexel.edu/graduatecollege/forms-policies/forms/>
- ❖ Complete and submit a thesis completion form to the Graduate College before the last day of the first week of classes in the term you plan to graduate. This form is available at: <http://www.drexel.edu/graduatecollege/forms-policies/forms/>
- ❖ Theses must follow a particular format and appearance. For guidelines to Drexel's, see: <https://www.library.drexel.edu/sites/default/files/thesismanual.pdf>
- ❖ To have your thesis bound and put in Drexel's library, see: <https://www.library.drexel.edu/node/18295>
- ❖ Students are responsible for knowing Drexel's deadlines for filing their thesis and staying on track.

## Human Subjects Research

Research involving interviews, surveys, or other research on human subjects require human subjects review. Because approval can take time, you should begin the application process as early as possible. See the Office of Research Administration for further information:  
<http://www.drexel.edu/research/administration/compliance/humanSubjects/>

## Oral Defense

Students who complete a master's project or a master's thesis should also present their work in an oral defense. Working with your primary advisor, you will decide whether you will have a closed defense (that is, only you, your primary advisor, and your two committee members will be there) or an open defense (that is, beyond the individuals in a closed defense, you can invite other faculty, students and friends). Regardless of whether your defense is open or closed, your defense will consist of a 20-30 minute presentation on your master's research. In your presentation you should discuss your central research question, your research methods, and your key findings. After your presentation, your advisor and committee members will ask questions about your research and findings for approximately 30 minutes or so. If your defense is open, other attendees will be invited to ask questions after the advisor and committee members ask their questions. After your advisor approves your research output, you can schedule your defense.

## Meeting with Faculty

Meeting with faculty for the first time can be an intimidating process. A number of questions will flood your mind. Questions like: “What do I say?”, “Can they help me?”, and the biggest question of them all, “Where do I start?”. Remember, faculty are there for you. Whether it is help with classes, internships, assistantships, scholarships, or future career plans, they will advise you and assist you in your graduate career. Communicate with them as much as possible. Build a rapport. Here are a few simple tips to help with the process of meeting with faculty.

### The DOs and DON'Ts of Meeting with Faculty

#### Do:

- Initiate a meeting at the beginning of your first quarter to introduce yourself and get to know faculty.
- Help faculty help you. Be proactive and take responsibility for your educational goals.
- At the initial meeting, make sure to discuss your interests and objectives for your graduate study. This way faculty can get a better understanding of what you want to get out of graduate school. If you know your future career goals, discuss that as well. They can also direct you to people who have similar interests.
- Discuss your thesis and research plans. Even if you are unsure about what you want to focus on, it is always best to discuss ideas and possible options. The sooner you start, the better.
- Send an email requesting a meeting time about two weeks prior to the time you would like to meet.
- Make sure to write down questions and concerns before the meeting. Preparation is key. You don't want to waste time trying to think of questions on the spot.
- Create a plan of study. Write down how many classes you plan to take each quarter, and how long you expect it will take to finish your degree.
- Remember to ask about a course list (if available), in order to plan ahead for the upcoming academic year.
- Meet with your main advisor at the beginning of every quarter. Even if you feel like you are on track, set up a meeting anyway.
- During a meeting with faculty always bring a laptop or a pen and paper to take notes.
- Avoid distractions such as phone alarms, texting, phone calls. Make sure your phone is on silent before the meeting.
- Be open and willing to reach out for help with possible conflicts, constraints or obstacles that may affect your academic success.

#### Don't:

- Walk into meetings unprepared.
- Be late or cancel last minute, unless it is a dire emergency.
- Hesitate to ask questions.
- Make assumptions. Ask anyway, just to be sure.
- Be unprofessional. Although this is not a business meeting, professionalism is important in academic culture.
- Procrastinate and wait until the last minute to set up/ plan for meetings, create an academic study plan, or create a thesis plan.
- Be afraid to get help. Even if a professor cannot help you or answer your question, more than likely they can direct you to someone who will.
- Panic. Everything will be fine.

## Other Research Opportunities

### Conference Participation and Funding

An important part of graduate professional development is presenting original research findings at academic conferences or annual meetings.

#### How can I present work at a conference?

Many conferences will be promoted through the Drexel STS listserv and the STS grad google group, <https://groups.google.com/forum/#!forum/STSGRAD>. Paying attention to the STS listserv and the STS google group will help you find relevant conferences. Because each conference has its own protocol for submitting a presentation abstract, students should seek out guidance from conference specific resources. Professional associations are also a great place to find out about conferences (see the STS organizations section for more info on professional associations).

#### Where can I find funding for conferences?

The Office of Graduate Studies and Office of International Programs offer several grants for students to present work at conferences domestically and abroad. Check with professional organization that is funding the conference. If a student is having difficulty finding assistance, reach out to the Director of the Center for STS to help locate additional funding sources.

**Travel Subsidy Website:** [http://www.drexel.edu/provost/graduatestudies/research\\_funding/travel.html](http://www.drexel.edu/provost/graduatestudies/research_funding/travel.html)

**International Travel Awards Website:** [http://www.drexel.edu/international/research\\_funding/ita.html](http://www.drexel.edu/international/research_funding/ita.html)

Often a professional association that hosts the conference will have travel awards for student participants. Information about such awards may be included in the conference announcement, but you should also email conference organizers if such information is not available in the announcement or on the website. Student work exchange is sometimes offered by scholarly societies as well.

### Research Assistantships

#### What is a research assistantship?

Research assistantships are a form of funding in which a student works as an 'assistant' on a project overseen by a faculty member in exchange for some type of compensation. Students can receive monetary compensation or earn credit toward their degree.

Research assistants gain valuable experience by learning research strategy, methods, and academic journal writing skills through hands-on experience and mentorship. Assistant tasks include conducting and transcribing interviews, collecting and entering data, conducting content analysis of literature, writing reports. Assistants can work up to 20 hours per week -- the amount of time will be determined by the faculty member's need and the needs of the student.

*Note: Many assistantship applications will ask for a resume or cover letter. For guidance on crafting these, check out the information in the Professional Development section of the handbook.*

#### How do I approach faculty members about research assistantships?

After meeting or taking a course with a faculty member, interested students should feel comfortable approaching faculty members about paid and unpaid research assistantships. Not all faculty members work with research assistants, and some may seek out assistants on their own. Professors look for people who are willing to go the extra mile, show initiative, and are eager to learn new skills and topical areas. By excelling in STS courses, students can show that they are well equipped and excited to work for an STS faculty member.

### Tips for Research Assistants

A Drexel assistantship or fellowship is equivalent to any other form of paid employment. Structure and consistency is needed for projects, and good communication is critical for any relationship, work-related or otherwise. When starting an assistantship, find out if the Principle Investigator (PI) has specific expectations for your working relationship. These expectations will likely include weekly meetings and reports. Stay organized and communicate with your PI. Keep track of your hours, progress on assignments and what you complete as a research assistant. Keeping track of what you do, how you do it, and how long assignments take you is good information for your PI, but can also be used to build your CV or resume.

### Administrative Guidelines for Research Assistants

Payment protocol varies depending on the research assistantship. You may have to log hours through Drexel One, you may be paid biweekly or monthly; it varies. Make sure you discuss this with your supervisor to avoid administrative difficulties.

If you are required to log hours in Drexel One, first log in using your student username and password. Then select the "EMPLOYEE" tab. Under "Payroll," select "Time Reporting and Leave Balances." On the new page, select "Time Sheet" and then select your employment position. Then hit the "Time Sheet" button at the bottom. The next screen will have a 2 week grid. Click in each date's box to enter hours for that date. If you did not work any hours on a given date, DO NOT PUT ANY VALUE IN THE BOX. Leave "enter hours" there; if you put in zero, your time sheet will have processing errors and will delay pay. When you have finished entering hours, click "submit for approval." You will be prompted to enter your date of birth and last four digits of SSN.

### Fellowships

#### What is a fellowship and how can I know if I'm eligible?

Fellowships are nationally and internationally prestigious merit scholarship programs that support undergraduate or graduate study, research or work experiences, here or overseas. They can range from short, quarter-long opportunities to multiple years of funding. Above all, fellowships support outstanding students in their efforts to do great work in the world, opening doors to mentoring, graduate schools, and careers.

Applying for a fellowship can be time consuming and daunting. However, the Office of Fellowships has fantastic staff to help students through the process. Students considering applying for a fellowship should consult the website (link below) and reach out to the fellowships office 6-9 months before the application deadline. Additionally, a number of fellowships require nomination or interview through the Drexel Fellowships Office: <http://drexel.edu/fellowships/applying/>

## STS Graduate Student Culture

There are many opportunities to get to know other graduate students and faculty and develop your knowledge of STS.

### STS Graduate Student Association (GSA)

STS graduate students formed the STS Collective in spring 2014. They formalized the STS Collective in 2014-5 by founding the STS GSA. The STS Collective/STS GSA is a student run organization based in the Center for Science, Technology, and Society (STS) that aims to engage with peers outside of the classroom and build a community of Drexel students and faculty that bridges STS and other disciplinary programs. The organization aims to help complement the preparation that the MS program formally provides for students by developing a robust community and a set of resources to promote success and engagement both during and after the program. The STS Collective plans to support several events over the course of the year, including writing and career development workshops, discussions of options for after Drexel, and monthly happy hours to discuss current STS work as well as further explore topics from class discussions. There are four official positions in the STS Collective: president, vice-president, treasurer, and event coordinator. Participating in the STS GSA/Collective is a great opportunity to shape STS at Drexel and pursue professional development.

### STS Works in Progress Lunch

The first Wednesday of each month, the Center for STS provides lunch and two people each give a 15-20 minute presentation on research in progress. Ideally, we would like a faculty and a graduate student to present at each lunch. After each talk, participants give the speaker feedback on his or her work, making suggestions about areas to develop, relevant readings and more. Make sure that you sign up and present research at least once while you are in the program.

### STS Listserv

Graduate students should subscribe to the STS Listserv. Members of the STS community post about upcoming STS events at Drexel and at other institutions, upcoming conferences, calls for proposals, etc. Be judicious when posting; announcements should be directly related to STS opportunities.

Anyone who is subscribed to the list can also post to it by sending an email to STS-ANNOUNCE-L@lists.drexel.edu After you post an email to the listserv, you will get another email with an approval link. Click on the link and your email will go out to the listserv.

### Drexel Graduate Student Association

Drexel Graduate Student Association: <https://www.facebook.com/drexelgsa>

Books & Bagels: Conversations on Interdisciplinary Research

This is a great opportunity for Drexel graduate students to speak about their research. Take advantage of this and submit your name as a possible speaker. See: <http://www.drexel.edu/graduatecollege/news-events/events/books-bagels/>

## An Introduction to STS

### Professional Organizations

Getting involved in your professional community is a great way to learn about the field; it also provides opportunities to develop your skill set as a scholar. There are numerous professional associations that support STS research. These include, but are not limited to:

- Association of Internet Research (AoIR): <http://aoir.org> »
- European Association for the Study of Science and Technology (EASST): <http://easst.net> »
- History of Science Society: <http://hssonline.org>
- Society for the History of Technology (SHOT): <http://www.historyoftechnology.org> »
- Society for Literature, Science, and the Arts (SLSA): <http://www.litsci.org> »
- Society for the Social Studies of Science (4S): <http://4sonline.org> »

Discipline-based professional associations (e.g., the American Anthropological Association, American Historical Association, American Sociological Association, etc.) often have sections dedicated to technology and science. Becoming a member of such sections is a great way to network and get feedback on your work. They often have graduate student paper prizes that you can submit your work to.

### STS Specific Opportunities

H-Net: Humanities and Social Sciences Online: <http://www.h-net.org>

SHOT Newsletter, a publication of the Society for the History of Technology:

<http://www.historyoftechnology.org/media/pdf/Newsletter/>

STS Grad - Google Group Forum: <https://groups.google.com/forum/#!forum/STSGRAD>

Technoscience Newsletter, a publication of 4S: <http://www.4sonline.org/technoscience/>

### STS Research Methodologies

STS scholars use a range of methods to investigate critical research questions. These methods include, but are not limited to:

Archival research  
Content Analysis  
Case Study  
Discourse Analysis  
Ethnography/Fieldwork  
Experiments  
Focus Groups  
Geographic Information Systems [GIS]  
In-depth interviews  
Social Networks Analysis  
Surveys

### Research Methodology Texts

The following texts provide discussion of various research methods (how to design studies, how to use the methods, how to analyze data and more). The following list is a starting point; there are many more excellent methods texts beyond this list.

Association for Internet Researchers (AoIR) Ethics Guide, <http://aoir.org/documents/ethics-guide/>

Boellstorff, Tom, Bonnie Nardi, Celia Pearce and T.L. Taylor. (2013). *Ethnography and virtual worlds: a handbook of method*. Princeton University Press.

- Clarke, Adele. (2005). *Situational analysis: grounded theory after the postmodern turn*. Thousand Oaks, CA: Sage Publications.
- Esterberg, Kristin. (2001). *Qualitative methods in social research*. New York: McGraw Hill Companies.
- Falzon, Mark-Anthony. (2009). *Multi-sited ethnography*. Ashgate.
- Luker, Kristen. (2008). *Salsa dancing into the social sciences: research in an age of info-glut*. Cambridge, MA: Harvard University Press.
- Maxwell, Joseph Alex. (2005). *Qualitative research design: an interactive approach*. 2nd ed, Applied social research methods series ; no. 41. Thousand Oaks, CA: Sage Publications.
- Weiss, Robert Stuart. (1994). *Learning from strangers: the art and method of qualitative interview studies*. New York Toronto; Maxwell Macmillan International.
- Yin, Robert K. (2003). *Applications of case study research*. 2nd ed, Applied social research methods series ; v. 34. Thousand Oaks: Sage Publications.
- . (2003). *Case study research: design and methods*. 3rd ed, Applied social research methods series ; v. 5. Thousand Oaks, Calif.: Sage Publications.

### Game-Changing STS Texts

Faculty members from Drexel University's Center for Science, Technology, and Society were asked what three favorite STS books or articles changed how they viewed STS scholarship. While methodologies and areas of inquiry within STS are numerous, this list provides an exciting snapshot of the work that faculty are in conversation with. The list also serves as a great starting point for those looking to learn more about STS.

- Anderson, W. (2006). *Colonial pathologies: American tropical medicine, race, and hygiene in the Philippines*. Durham, NC: Duke University Press.
- Beck, U. (1992). *Risk society: Towards a new modernity*. Thousand Oaks, CA: SAGE Publications.
- Bogost, I. (2012). *Alien phenomenology, or what it's like to be a thing*. Minneapolis, MN: University of Minnesota Press.
- Brown, M. B. (2009). *Science in democracy: Expertise, institutions and representation*. Cambridge, MA: MIT Press.
- Coole, D. & Frost, S. (Eds.). (2010). *New materialisms: Ontology, agency, and politics*. Durham, NC: Duke University Press.
- Cronon, W. (1992). *Nature's metropolis: Chicago and the great west*. New York, NY: W. W. Norton & Company, Inc.
- Daston, L. & Galison, P. (2007) *Objectivity*. Brooklyn, NY: Zone Books.
- Edgerton, D. (2011). *The shock of the old: Technology and global history since 1900*. New York, NY: Oxford University Press.
- Fortun, K. (2001). *Advocacy after Bhopal: Environmentalism, disaster, new global orders*. Chicago, IL: The University of Chicago Press.
- Hacking, I. (1986). Making up people. In Heller, T. et al. (Eds.), *Reconstructing individualism* (pp. 222-236). Stanford, CA: Stanford University Press.



- Haraway, D. (1997). *Modest\_witness@second\_millennium.femaleman@meets\_oncomouse™: Feminism and technoscience*. New York, NY: Routledge.
- Haraway, D. (1989) *Primate visions: Gender, race, and nature in the world of modern science*. New York, NY: Routledge.
- Helmreich, S. (2009). *Alien ocean: Anthropological voyages in microbial seas*. Berkeley, CA: University of California Press.
- Irwin, A. & Wynne, B. (Eds.). (1996). *Misunderstanding science?: The public reconstruction of science and technology*. New York, NY: Cambridge University Press.
- Jasanoff, S. (2005). *Designs on nature: Science and democracy in Europe and the United States*. Princeton, NJ: Princeton University Press.
- Jünger, F. G. (1956) *The failure of technology*. Washington, DC: H. Regnery Co.
- Kelty, C. M. (2008). *Two bits: The cultural significance of free software*. Durham, NC: Duke University Press.
- Kuhn, T. (1962). *The Structure of Scientific Revolutions*. Chicago, IL: Chicago University Press.
- Latour, B. (1988). *The pasteurization of France*. Cambridge, MA: Harvard University Press.
- Latour, B. (1993). *We have never been modern*. Cambridge, MA: Harvard University Press.
- Latour, B. & Woolgar, S. (1986). *Laboratory life: The construction of scientific facts*. Princeton, NJ: Princeton University Press.
- Marcuse, H. (1964). *One-dimensional man: Studies in the ideology of advanced industrial society*. Boston, MA: Beacon Press.
- Martin, E. (2007). *Bipolar expeditions: Mania and depression in American culture*. Princeton, NJ: Princeton University Press.
- Martin, E. (1987). *The woman in the body: A cultural analysis of reproduction*. Boston, MA: Beacon Press.
- Oudshoorn, N. (1994). *Beyond the natural body: An archaeology of sex hormones*. New York, NY: Routledge.
- Rheinberger, H. (2010). *An epistemology of the concrete: Twentieth-century histories of life*. Durham, NC: Duke University Press.
- Sarewitz, D. (1996). *Frontiers of illusion: Science, technology, and the politics of progress*. Philadelphia, PA: Temple University Press.
- Shapin, S. & Schaffer, S. (1985). *Leviathan and the air-pump: Hobbes, Boyle, and the experimental life*. Princeton, NJ: Princeton University Press.
- Traweek, S. (1988). *Beamtimes and lifetimes: The world of high energy physicists*. Cambridge, MA: Harvard University Press.
- Vogel, D. (2012). *The politics of precaution: Regulating health, safety, and environmental risks in Europe and the United States*. Princeton, NJ: Princeton University Press.
- Winner, L. (1986). *The whale and the reactor: A search for limits in an age of high technology*. Chicago, IL: The University of Chicago Press.
- Wise, M. N. (Ed.). (1995). *The values of precision*. Princeton, NJ: Princeton University Press.

## STS Related Journals

BioSocieties  
Configurations: A Journal of Literature, Science, and Technology  
Journal of Responsible Innovation  
Science, Technology & Human Values  
Social Studies of Science  
Science As Culture  
Science Technology and Society  
Science and Technology Studies  
Science, Technology, and Development  
Science, Technology, and Society: An International Journal Devoted to the Developing World  
Gender, Technology, and Development  
Science Communication (formerly Knowledge: Creation, Diffusion, Utilization)  
Science and Engineering Ethics  
Science Studies  
Social Science & Medicine  
ISIS  
History of Science  
British Journal for the History of Science  
Studies in History and Philosophy of Science  
International Studies in the Philosophy of Science  
Annals of Science  
Osiris  
Technology and Culture  
History of Technology  
Issues in Science & Technology  
Daedalus  
Environmental Communication: A Journal of Nature and Culture  
Minerva  
Technology In Society  
Science and Public Policy  
Research Evaluation  
Outlook on Science Policy  
Japan Journal for Science, Technology, and Society  
Engineering Studies  
Technology Studies  
Science in Context  
Perspectives on Science: Historical, Philosophical, Social  
Social Epistemology  
Public Understanding of Science  
Current Literature on Science of Science  
Prometheus  
New Genetics and Society  
Cultural Dynamics  
Information Technologies and International Development  
IEEE Technology and Society Magazine  
Bulletin of Science, Technology, and Society  
Impact of Science on Society  
Science and Society  
Politics and the Life Sciences  
Philosophy & Social Action

## Internet & Information Technology

Information & Organization  
Information, Communication, and Society

The Information Society  
New Media and Society  
Computers and Society  
Journal of Online Behavior  
Journal of Computer-Mediated Communication  
Communications of the ACM  
International Journal of Networking and Virtual Organisations  
The Electronic Journal on Information Systems in Developing Countries

### Student Journals in STS

Intersect: The Stanford Journal of Science, Technology, and Society  
*DEMESCI: International Journal of Deliberative Mechanisms in Science*  
Synthesis: An Undergraduate Journal of the History of Science at Harvard.

### General STS Information

[STS Wiki](#) with information on theories, concepts, issues, research questions, programs, course syllabi, and subject-specific bibliographies.

[Science and Democracy Network, Harvard University](#)

### STS Research Centers

Centre for Science Studies, Lancaster University (UK). *Promotes interdisciplinary research across the boundaries of science, technology, and public policy. Their research problematizes the construction of scientific knowledge and expert authority. We take diverse approaches including feminist STS, actor-network theory (and after), cultural analyses of science, anthropological and postcolonial technoscience studies.*

Consortium for Science Policy and Outcomes (Arizona State University). *The Consortium for Science, Policy, and Outcomes is an intellectual network aimed at enhancing the contribution of science and technology to society's pursuit of equality, justice, freedom, and overall quality of life. The Consortium creates knowledge and methods, cultivates public discourse, and fosters policies to help decision makers and institutions grapple with the immense power and importance of science and technology as society charts a course for the future.*

Centre for the Study of Invention & Social Process, Goldsmiths (University of London) (CSISP). *An active interdisciplinary research centre based in the Department of Sociology at Goldsmiths. CSISP hosts events, research, and projects that examine the role of 'invention' and cognate terms ('innovation', 'creativity', 'expectation') in relation to contemporary dynamics in an array of substantive areas (HIV/AIDS, energy, design, information technology).*

The Loka Institute. *The Loka Institute's vision is to kindle a vibrant popular movement for community-driven policies in research, science, and technology that will advance democracy, social justice, and ecological sustainability at every level – from neighborhoods to nations.*

## **STS Ph.D. Programs**

[Arizona State University, Human and Social Dimensions of Science and Technology](#)

[Cornell University: STS](#)

[Georgia Tech: History and Sociology of Technology and Science](#)

[Harvard: History of Science Program](#)

[Johns Hopkins: History of Science, Medicine and Technology](#)

[MIT: STS Program](#)

[North Carolina State: STS \(Graduate Minor\)](#)

[Princeton: History of Science Program](#)

[Rensselaer Polytechnic Institute: STS](#)

[SUNY-Stony Brook: Technology, Policy and Innovation Program](#)

[University of California, Berkeley, STS \(Designated Emphasis\)](#)

[UC-San Diego: Science Studies Program](#)

[University of Pennsylvania: History & Sociology of Science](#)

[University of Toronto: History & Philosophy of Science & Technology](#)

[University of Wisconsin, Madison-STS \(Graduate Minor\)](#)

[Virginia Tech: STS](#)

For a world-wide directory of STS graduate programs, see:

[http://www.stswiki.org/index.php?title=Worldwide\\_directory\\_of\\_STS\\_programs](http://www.stswiki.org/index.php?title=Worldwide_directory_of_STS_programs)

## Professional Development

### Steinbright Career Development Center - Career Services

Drexel's Career Services offers one-on-one meetings with the career services library assistant (to help learn about databases to identify relevant lists of employers and networking opportunities) *and* career counselors, Ken Bohrer and Arnie Kohen. Career counselors will help you create a strong cover letter and resume. They will also administer interest tests to help you learn more about the type of work place that may be a good fit for you.

Website: <http://www.drexel.edu/scdc/>

Career counselors: <http://www.drexel.edu/scdc/career-services/counseling/>

Library Assistant: <http://www.library.drexel.edu/blogs/drexelcareerlib/about-2/>

Career Services also offers workshops throughout the term covering a wide array of topics.

Workshop calendar: <http://drexel.edu/scdc/calendars-events/workshops/>

### Resume Versus Curriculum Vitae: What's the Difference?

Students should keep a working resume and/or CV throughout their education. Keeping track of accomplishments, experience, etc. as they occur will result in more accurate documentation (i.e. it's really easy to forget that you presented work at a student conference 3 years ago). For more information about preparing a resume or CV, check out UNC's Writing Center:

<http://writingcenter.unc.edu/handouts/curricula-vitae-cvs-versus-resumes/>

Depending on a student's professional career goals, it may be more appropriate to keep a resume or a CV. What's the difference?

The primary difference between a resume and a CV are the length, what is included and the audience.

**A resume** is a one or two page summary of your skills, experience and education. It is usually read by hiring managers. Most jobs in non-profits, government and the private sector in the United States will ask for a resume. While a resume is brief and concise - no more than a page or two, a curriculum vitae is a longer (at least two pages) and provides a more detailed synopsis.

**A curriculum vitae** includes a summary of your educational and academic backgrounds as well as teaching and research experience, publications, presentations, awards, honors, affiliations and other details. In the United States, a curriculum vitae is used primarily when applying for academic, scientific or research positions or for fellowships or grants.

For more information about preparing a resume or a CV, check out UNC's Writing Center:

<http://writingcenter.unc.edu/handouts/curricula-vitae-cvs-versus-resumes/>

University of Illinois, Urbana-Champaign's Graduate College also has good information:

<http://www.grad.illinois.edu/careerservices/cvorresume>

## Academic Resources

### Writing Center

The Writing Center offers one-on-one appointments and workshops to work on writing skills. See: [www.drexel.edu/engphil/about/DrexelWritingCenter/](http://www.drexel.edu/engphil/about/DrexelWritingCenter/)

### Drexel Libraries

The W. W. Hagerty Library is the main arm of the Drexel University library system. Located at 33<sup>rd</sup> and Market Streets, it is easily accessible from a variety of public transportation options and is situated near the school's parking garage. Other physical library locations include the Hahnemann and Queen Lane libraries. More information on locations and hours of operation can be viewed at <http://www.library.drexel.edu/about/locations>.

Upon accessing the library's homepage (<http://www.library.drexel.edu/>), searching for books, articles, journals, and subject-specific databases is enabled via the prominent search tool at the top of the page. Also located in this section is a drop-down menu for the Library Guides. A great starting point for research projects, the Science, Technology, and Society Library Guide combines general research tips with suggested journals, databases, and external internet resources specific to the discipline. The STS guide can be found at <http://www.library.drexel.edu/guides/humanities-social-sciences/science-technology-and-society>.

Library Guides are compiled and maintained by Liaison Librarians. Each of these librarians is assigned to a general subject area and is available to help with various aspects of locating and obtaining the materials you need. Using the features located on the right-hand side of most library webpages, students can chat with an on-duty librarian and book private consultations. Contact information for all Liaison Librarians, including Larry Milliken, the current Humanities/Social Sciences Librarian, can be found at <http://www.library.drexel.edu/services/librarians>.

In the event that a student needs access to materials that are currently unavailable or not held by the Drexel University Libraries, convenient interlibrary loan options are provided, including E-Z Borrow and iLLiad (<http://www.library.drexel.edu/services/borrowfromotherlibraries>). Additionally, with their student ID and a letter from Drexel University Libraries, students enjoy privileges at the libraries of the University of Pennsylvania and the University of the Sciences in Philadelphia.

In order to help keep your research organized, the Drexel University Libraries supports reference managing tools such as EndNote and Zotero. Tutorials on using these applications can be found at <http://www.library.drexel.edu/tutorials/tutorials.html>. EndNote is an example of software available to Drexel students for free or at a discounted price. The list of software licensed by Drexel is located at <http://www.drexel.edu/irt/computers-software/software/software-list/>.

Group study rooms are available at the Hagerty, Hahnemann, and Queen Lane libraries to facilitate collaboration among students and faculty on projects or study sessions. Information on availability and reservation policies can be found at <http://www.library.drexel.edu/about/groupstudy.html>.

### Drexel Library Resources

- W. W. Hagerty Library – 3300 Market St - <http://www.library.drexel.edu/>
- Liason Librarian for the Humanities and Social Sciences – Larry Milliken, [larry.milliken@drexel.edu](mailto:larry.milliken@drexel.edu) ; <http://www.library.drexel.edu/bio-pages/larry-milliken>
- Research guides:
  - Science, Technology, and Society
    - <http://www.library.drexel.edu/guides/humanities-social-sciences/science-technology-and-society>
  - Sociology and Anthropology

- <http://www.library.drexel.edu/guides/humanities-social-sciences/sociology-and-anthropology>
- Political Science and Public Policy
  - <http://www.library.drexel.edu/guides/humanities-social-sciences/political-science-and-public-policy>
- History of Technology and HIST285
  - <http://www.library.drexel.edu/guides/humanities-social-sciences/history-technology-and-hist285-0>
- History of Science and HIST280-281-282
  - <http://www.library.drexel.edu/guides/humanities-social-sciences/history-science-and-hist280-281-282>

### University of Pennsylvania Library Resources

- Drexel students can use the 8+ libraries on Penn's campus.
- List of locations: <http://www.library.upenn.edu/locations/>.
  - The Drexel student needs to show their Drexel ID and sign in.
  - Drexel students are not allowed access to the libraries during the few weeks leading up to their finals.
  - Drexel graduate students can rent books from Penn's libraries.
    - The student must obtain a form from the Penn library staff, and then take it to the Drexel library to have it signed. The student returns the signed form to the Penn library. The Drexel student will then be given a card to use to rent books at Penn. The card does have an expiration date. The Drexel student can renew the card by repeating the above process.
  - Drexel students do not have access to the Internet at Penn. If you make friends with someone at Penn, they can sign you into the Guest Internet access, which registers your laptop or tablet to use the Internet for one week.
  - Van Pelt Library has a decent selection of periodicals and peer-reviewed journals to browse on the first floor.

## Non-Academic Resources

### Food and Drink: Restaurants, Cafes, Food Trucks and Groceries

#### *Restaurants on/near Sansom Row – Between 3400 – 3500 Sansom Street*

Baby Blues BBQ – Barbeque  
White Dog Café – American contemporary  
Doc Magrogan's – Oysters/seafood  
New Deck Tavern – Traditional Irish and American  
Federal Donuts – Chicken and donuts  
Mad Mex – Mexican/Tex-Mex (accessible from Sansom Row, located at 3401 Walnut St)  
Cosi – on 3600 Block between Sansom St & Walnut St

#### *Restaurants south of Main Building*

World Café Live – American – 3025 Walnut St  
The Fat Ham – Southern – 3131 Walnut St  
Old Nelson Food Company – Deli & convenience store – 129 S 30<sup>th</sup> St  
St. Delcan's Well – Irish pub – 3131 Walnut St  
Slainte Pub & Grill – Irish pub – 3000 Market St

#### *Restaurants in Powelton Village*

Savas – Pizza, American – 3505 Lancaster Ave  
Lemon Grass Thai Restaurant – Thai – 3630 Lancaster Ave  
Mad Greek Restaurant and Pizza – Pizza – 3517 Lancaster Ave  
Stan's Deli – Deli – 3632 Lancaster Ave  
Powelton Pizza & Deli – Pizza – 3635 Lancaster Ave  
Ed's Buffalo Wings & Pizza – Pizza – 3513 Lancaster Ave  
Sabrina's Café – American, Breakfast – 227 N 34<sup>th</sup> St  
Drexel Pizza – Pizza – 107 N 33<sup>rd</sup> St  
Spencer ETA Burger – Sandwiches – 227 N 34<sup>th</sup> St  
Aloosh Hookah Bar Restaurant – Middle Eastern – 3600 Lancaster Ave

#### *Restaurants between Drexel & Penn*

Nosh Deli – Deli – 3600 Market St  
Han Dynasty – Chinese – 3711 Market St  
Pizza Rustica – Pizza & full bar – 3602 Chestnut St  
Sang Kee Noodle House – Asian – 3549 Chestnut St  
Pod – Asian Fusion – 3636 Sansom St  
Penne Restaurant & Wine Bar – Italian – 3600 Sansom St

#### *Restaurants on/near Penn's campus*

Houston Hall, bottom floor – Dining at Penn open to the public – 3417 Spruce St  
Gia Pronto – Sandwiches, coffee – 3736 Spruce St  
Sweet Green – salads –  
Bobby's Burger Palace – burgers & shakes – 3925 Walnut St  
Chipotle – 3925 Walnut St  
Taphouse – Large Draft Beer selection, American food –  
Harvest Seasonal Grill & Wine Bar – Seasonal food – 200 S 40<sup>th</sup> St  
Smokey Joe's – 210 S 40<sup>th</sup> St  
Ben & Jerry's – 218 S 40<sup>th</sup> St  
Greek Lady – Greek – 222 S 40<sup>th</sup> St  
HipCityVeg – Vegan - 214 S 40<sup>th</sup> St  
Wishbone – Artisanal fried chicken –  
Koreana – Korean - 3801 Chestnut St  
Saladworks – 3728 Spruce St

#### *Food Truck Gathering Places*

33<sup>rd</sup>/Arch St  
Market between 33<sup>rd</sup> and 36<sup>th</sup>  
Behind Main Building, around 32<sup>nd</sup> and Ludlow St



The Porch at 30<sup>th</sup> St Station (seasonal) – In front of 30<sup>th</sup> St Station on Market St

#### *Cafes*

Reeds Coffee and Tea House – 3802 Lancaster Ave  
Green Line Café – 3649 Lancaster Ave  
Joe Coffee – 3200 Chestnut St  
Replica Creative – 3711 Market St  
Starbucks – in the lobby of LeBow at 3200 Market, 3401 Walnut St, 3421 Chestnut St  
Avril 50 – Coffee/Tea, Eclectic Newspapers & Magazines – 3406 Sansom St  
HuBub – 3736 Spruce St  
Metropolitan Bakery – 4013 Walnut St  
International House – 3701 Chestnut St  
Axis Café / Stratum Café – 20 S 36<sup>th</sup> St

#### *Groceries*

Greensgrow West Truck – produce – for hours and locations, see  
<http://www.greengrow.org/mobile-markets/locations-hours/>  
The Fresh Grocer – 4001 Walnut St  
Mariposa Food Co-op – 4824 Baltimore Ave  
Trader Joe's – 2121 Market St  
Shop n Bag – 4301 Walnut St

#### *South West Philly Eats*

44<sup>th</sup> St between Locust St & Spruce St  
Local 44 – American, rotating draft beers, bottle shop next door  
Honest Tom's Taco Shop – Tacos  
Tampopo – Korean  
Lil Pop Shop – Local artisanal popsicles  
Clark Park – 43<sup>rd</sup> and Baltimore to 45<sup>th</sup> and Woodland  
<http://www.friendsofclarkpark.org/>  
Farmer's Market on Saturday and Tuesday from 10:00 a – 2:00 p  
Dock Street Brewery – 50<sup>th</sup> St & Baltimore Ave  
Between these two locations along Baltimore Ave are many ethnic restaurants, shops, and cafes.

## Housing/Living

Drexel Off Campus Housing Website - <http://offcampushousing.drexel.edu/>

*Neighborhoods in North and South West Philadelphia*

Powelton Village –

[http://en.wikipedia.org/wiki/Powelton\\_Village,\\_Philadelphia](http://en.wikipedia.org/wiki/Powelton_Village,_Philadelphia)

Located between Market St and Spring Garden St, from about 32<sup>nd</sup> St to 40<sup>th</sup> St.

Mantua -

[http://en.wikipedia.org/wiki/Mantua,\\_Philadelphia](http://en.wikipedia.org/wiki/Mantua,_Philadelphia)

Located between Spring Garden St and Mantua Ave, from about 31<sup>st</sup> St to 40<sup>th</sup> St

Walnut Hill –

[http://en.wikipedia.org/wiki/Walnut\\_Hill,\\_Philadelphia](http://en.wikipedia.org/wiki/Walnut_Hill,_Philadelphia)

Located between Market St and Spruce St, from 45<sup>th</sup> St to 52<sup>nd</sup> St

Spruce Hill –

[http://en.wikipedia.org/wiki/Spruce\\_Hill,\\_Philadelphia](http://en.wikipedia.org/wiki/Spruce_Hill,_Philadelphia)

Located between Market St and Woodland Ave, from 40<sup>th</sup> St and 46<sup>th</sup> St

### *Local utility companies*

[Verizon](#) provides local telephone service, access to a long distance company of your choice, and optional Internet service for students living off campus.

[PECO Energy Company](#) provides electrical service.

[Philadelphia Gas Works](#)

[Comcast Cable Company](#)

[Philadelphia Water Revenue Bureau](#)

### *Banks*

[Citizens Bank](#)

[Philadelphia Federal Credit Union](#)

[PNC Bank](#)

[Santander Bank](#)

[TD Bank](#)

[Wells Fargo](#)

### *Events and Recreation*

List of museums in Philadelphia: <http://www.visitphilly.com/museums-attractions/philadelphia-museums/view-all/>

Calendar of Philadelphia events: <http://www.uwishunu.com/>

Baltimore Ave - from 43<sup>rd</sup> St to 50<sup>th</sup> St

Baltimore Ave Dollar Stroll

Occurs twice per year, shops vend select items on the street for \$1, includes live music and entertainment

<http://universitycity.org/baltimore-ave-dollar-stroll>

Local Information <http://www.westphillylocal.com/>

University City District - <http://universitycity.org/>

The Woodlands – 4000 Woodland Ave

Historic cemetery. Grounds surrounded by running trail used on a daily basis by neighbors for jogging and dog walking

Location of “Go West! Craft Fest” held twice per year

<http://gowestcraftfest.blogspot.com/>

*Transportation*

Drexel Bus Routes (free with Drexel ID):

<http://www.drexel.edu/facilities/transportation/busServiceSchedules/>

Lucy Route

Loop around University City

Map: <http://www.septa.org/maps/bus/pdf/LUCY.pdf>