

**CCTP 506:
FUNDAMENTALS
OF TECHNOLOGY**

Spring 2016

Instructors:

Dr. Evan Barba

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Car Barn 311

Office Hours: Mon 3-5 pm

Dr. J.R. Osborn

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Car Barn 300

Office Hours: Tue 10 am -12 pm

Course Locations:

Lecture: Reiss 103

Tuesdays, 5:00-7:00 pm

Sections: Car Barn 318

Course Site:

<https://blogs.commonsg>

[georgetown.edu/cctp-506-](https://blogs.commonsg/georgetown.edu/cctp-506-spring2015)

[spring2015](https://blogs.commonsg/georgetown.edu/cctp-506-spring2015)

Teaching Assistants:

Molly Crain

mgc51@georgetown.edu

Nathan Danskey

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John Hanacek

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Susan Noh

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Laura Werthmann

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Ramon Zamora Marroquin

riz2@georgetown.edu

COURSE SYLLABUS

CCT strives to investigate technology as a dynamic part of social life. We study how technology, communication, and culture shape human interaction. But to get the complete picture, we must also investigate technology itself. This course is about how to do that.

In 506 we 'open the black box' of technology. By the end of the class you will be able to explore technical topics as a socio-technical system. You will explain how they work at a technical level, how they shape and have been shaped by social decisions, and how they affect the lives of their users.

Lectures during the first half of the course unpack the workings of information and communication technologies (ICTs). You will come to understand how and why these technologies work the way they do and how they interact with the world around them, including human beings.

Throughout the course, group projects will do the same for a technology of your choosing. Groups will open the black box of their chosen technology and explain how the technology operates within a socio-technical system. Project findings will be presented online through a variety of media (including written content, brief videos, and a technical poster).

The class consists of a weekly lecture and lab sections. Primary assignments include an in-class midterm exam and a final collaborative project.

Objectives

1. Obtain a familiarity with ICTs and their inner-workings so that you can:
 - a. communicate with technical people
 - b. be critical about how technologies work and how they are used
 - c. understand and predict interactions in a socio-technical system
 - d. go on to more advanced technical work
2. Use communication and design media to:
 - a. express and communicate ideas to a variety of audiences
 - b. understand how digital tools arrange and manipulate information
 - c. attain basic familiarity with practices of media production

Credit hours: 3

Prerequisites: none

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COURSE SYLLABUS

Sections and Teaching Assistants

01	Wed. 10:00-10:50 am	Ramon Zamora Marroquin and John Hanacek
02	Wed. 5:00-5:50 pm	Laura Werthman and Susan Noh
03	Wed. 6:00-6:50 pm	Laura Werthman and Linda Huber
04	Thurs. 10:00-10:50 am	John Hanacek and Ramon Zamora Marroquin
06	Thurs. 5:00-5:50 pm	Nathan Dansky and Molly Crain

All sections will meet in the CCT Studio, Car Barn 318.

Evaluation plan

You will be graded on assignments and receive feedback from instructors, teaching assistants, and colleagues throughout the semester. Final grades will be based on the following percentages.

10%	Participation and Attendance in Lecture and Lab
20%	Weekly Assignments and Deliverables
30%	Midterm Exam on Tuesday, March 22
40%	Final Group Projects

Course Texts

All students must purchase and read ***The Bare Bones Camera Course for Film and Video by Tom Schroepel*** (2015, Third Edition). You must complete this book by March 15. It's a great quick-start guide for video production (especially for those who have never made a video before) and a useful resource for the final project videos. All other required readings and videos will be available on the course website:

<https://blogs.commonsgorgetown.edu/cctp-506-spring2016>

For those wishing to dig deeper into ICTs, we recommend the following books and videos:

- Norman, Donald. 1988. *The Design of Everyday Things*
- Scott, J. Clark. 2009. *But How Do It Know?*
- White, Ron & Timothy Down. 2008. *How Computers Work.*
- *The Machine That Changed the World.* 1992.
(a five-part television series on the history of computing)

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COURSE SYLLABUS

Week 1: January 19-21

Lecture: Black boxes and Socio-technical Systems

Readings and Videos (for lecture): none

Deliverables (due in section): Student Survey

Lab Activity: Diagramming Socio-technical Systems

Week 2: January 26-28

Lecture: Technology as Actors in Systems

Readings and Videos (for lecture):

- Latour, B. (1988). "Mixing Humans and Nonhumans Together: The Sociology of a Door-Closer"
- Pinch, T. J. and W. E. Bijker (1987). "The social construction of facts and artifacts: Or how the sociology of science and the sociology of technology might benefit each other"
- Winner, L. (1980). "Do Artifacts Have Politics?"

Deliverables (due in lecture): Socio-technical system diagram of your 505 Project

Lab Activity: Discussion of texts and Unpacking a Technology assignment

Week 3: February 2-4

Lecture: Networks and Information

Readings and Videos (for lecture):

- Abbate, J. (1999). Inventing the Internet (Chapter 1)
- White, R. and T. Downs. How Computers Work (pages 308-321)
- Gleick, J. (2011) The Information (Prologue)
- Zettl, H. "What is Digital?" - Zettl- What is Digital
- "Warriors of the Net" (<http://youtu.be/n7mtJ3ZV6xM>)

Deliverables (due in lecture): Unpack a Technology

Lab Activity: Content Management Systems (CMS) for the group project

Week 4: February 9-11

Lecture: History and Hardware of Computing

Readings and Videos (for lecture):

- White, R. and T. Downs. How Computers Work (pages 4-9, 20-29, 48-69)
- Dourish, P. (2001). Where the Action Is: The Foundations of Interaction (Chapter 1)
- Whitworth, B. and A. Adnan. "Socio-Technical System Design" (Read only Part 1, from 24.1.1 to 24.1.11)

Deliverables (due in lecture): Codecademy Certificate (Instructions)

Lab Activity: Pick technologies for Group Projects, Draft Team Contract

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Week 5: February 16-18

Lecture: Programs, Problems, and Algorithmic Processes

Readings and Videos (for lecture):

- White, R. and T. Downs. How Computers Work (pages 82-103)
- Allardice, S. “Foundations of Programming: Fundamentals” (Chapters 1-6) on Lynda.com
- Fisk, D. (2005). “Programming with Punched Cards”

Deliverables (due in lecture): Architecture of Technology, Team Contract

Lab Activity: Discuss and combine

Week 6: February 23-25

Lecture: Usability, Affordances and Limitations of Interaction

Readings (for lecture):

- Norman, D. (1988). The Design of Everyday Things (Chapter 1)
- David, P. (1985). “Clio and the economics of QWERTY”
- Agre, P. (1994). “Surveillance and Capture: Two Models of Privacy”
- Carroll, J. “Human Computer Interaction - brief intro”

Deliverables (due in lecture): Algorithmic Description of Technology

Lab Activity: Discuss and combine

Week 7: March 1-3

Lecture: Web and Data

Readings and Videos (for lecture):

- Google.com. “How Search Works”
- Wilbert, A. “Relational Database Fundamentals” on Lynda.com
- Williamson, J. “HTML5: Structure, Syntax , and Semantics” on Lynda.com

Deliverables (due in lecture): Usability Report of Technology

Lab Activity: Discuss and combine

Week 8: March 7-11

NO CLASS – Spring Break

Week 9: March 15-17

Lecture: Exam Review and Video Tips

Readings and Videos (for lecture):

- Schroepfel, T. (2015, Third Edition) The Bare Bones Camera Course for Film and Video

Deliverables (due this week): Project Website up and running

Lab Activity: Exam Review and Project Production Schedule

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Week 10: March 22-24

Lecture: **EXAM**

Project Activities: Annotate 4 sources, plan poster and videos

Deliverables (due in lecture): show up

Lab Activity: NO SECTIONS (Easter Break)

Week 11: March 29-31

Lecture: Clarabridge Lecture and Website critiques

Project Activities: Annotate 4 sources, design poster, plan interview

Deliverables (due online): Socio-technical system diagram of group project

Lab Activity: Discuss and combine

Week 12: April 5-7

Lecture: Exams returned, Poster critiques

Project Activities: Annotate 4 sources, schedule interview

Deliverables (due in lecture): Poster Design

Lab Activity: Revise poster, practice presentations

Week 13: April 12-14

Lecture: Group Project Presentations

Project Activities: shoot interview, revise poster, practice presentation

Deliverables (due in lecture): Presentation

Lab Activity: Storyboard and Edit videos

Week 14: April 19-21

Lecture: Group Project Presentations

Project Activities: polish poster, edit videos, draft remaining content

Deliverables (due in lecture): Project Poster .pdf submitted online

Lab Activity: Edit videos, review website

Week 15: April 26-28

Lecture: Video Critiques

Project Activities: polish videos, standardize and edit website content

Deliverables (due in lecture): Video Rough and Final Project Poster

Lab Activity: Revise videos

Exam Week and beyond

– May 3: Poster Session

– May 10: Final Iteration of Projects due