

Computation Reconsidered (ATEK/IIMC-590)

Fall 2018 // Integrated Media, Art and Technology // California Institute of the Arts

[ATEK - Art and Technology 590-01 Computation Reconsidered](#)

[IIMC - Integrated Media 490-01 Computation Reconsidered](#)

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Tuesdays, 7 - 8:50pm // C108

Instructor: Stephanie Smith // scsmith@calarts.edu

TA: Taehee Kim // taeheekim@alum.calarts.edu // Office Hours TBD

How can computation be reconsidered within the critical contexts of an art practice? Students will be introduced to the aesthetic possibilities of combining art making, computer programming and digital technology. The classes will explore the fundamentals of programming in a variety of IDEs combined with the investigation of physical media, installation and interactive design. The class assignments will lead to a focus on the expressive capabilities of the human body in a sensor-based environment. The core concepts will involve a dialogue between physical action and digital information. A final group project will implement the body, sensors, and microcontrollers using computer programs written in class.

GitHub: <https://github.com/comprecon18> 🐙🐙

▸ Main Topics

▸ I. Arduino

- Sense/Control physical objects
- <https://www.arduino.cc/>

▸ II. Processing

- Visuals and video manipulation
- <https://processing.org/>

▸ III. Visual Programming Languages (PureData)

- Audio I/O and manipulation / Data routing / "Show Control"
- <https://puredata.info/>

▸ (optional) Version Control (complementary skill)

- Code history / Code sharing / Code collaboration
- Git: <https://git-scm.com/>
- GitHub: <http://github.com>

▸ Schedule

#	Date	Topic	Secondary Topics*
01	09/11	Arduino	
02	09/18	Arduino	
03	09/25	Arduino	Sensors
04	10/02	Arduino	Mini-Project Due, Sensors, Servos
05	10/09	Processing	Guest Lecturer: Kerstin Hovland (ecminteractive.com)
06	10/16	Processing + Arduino	

#	Date	Topic	Secondary Topics*
07	10/23	Processing + Arduino	Mini-Project Due
08	10/30	PureData	Misc. controllers
09	11/06	PureData + Arduino	
10	11/13	PureData + Arduino	Mini-Project Due , Discuss Final Project
11	11/20	Final Project Proposals, Form Groups	
12	11/27	Final Project Development	
13	12/04	Final Project Development	
14	12/11	Gallery Open	

- Secondary topics may shift throughout the semester
- Soldering covered in optional lab outside of class

› Mini-Projects

There will be a "mini-project" at the end of each unit (a total of three). They are due on the last day of the unit. They consist of continuing development of whatever you've built in class during that unit and then showing it to the class ("show-and-tell").

› Final Project

A final project will be due at the end of the semester. You will be creating an installation, which will be installed in C108 on the last day of class.

› Grading

Attendance, Participation	33%
Mini-Projects (3)	33%
Final Project	34%

› Shared Code/Assignments

Google Drive where you can upload your code:

<https://drive.google.com/drive/folders/1vMucFCi4nhILJDcJugT7xk998hOX3EI5?usp=sharing>

If you're comfortable with GitHub, add your code as repositories (contact me for access): <https://github.com/comprecon18/>

I'd encourage you to share your code so your classmates can take a closer look. Sharing and building off existing code is a great way to learn and develop new ideas.

› Material Resources

- sparkfun.com - online store
- adafruit.com - online store
- aliexpress.com - cheaper online store but slow shipping
- [Apex Electronics](#) - electronics surplus store in LA
- [All Electronics](#) - electronics store in LA