INTERACTIVE TELECOMMUNICATIONS PROGRAM (ITP) / INTERACTIVE MEDIA ARTS (IMA)
SUMMER 2020 COURSES

6-WEEK 1ST HALF COURSES

2.0-UNIT - IMA UNDERGRADUATE COURSES

**Code!** (2.0 units)
IMNY-UT 1 – 001 (6103) Asynchronous Schedule (05/26 - 07/05)
Dan Shiffman Online

Please note: This course is NOT open to students studying in Accra, London or Madrid due to legal visa restrictions. This is also NOT open to NYU Shanghai students, as online courses are not applied toward the degree.

This online 7-week course focuses on the fundamentals of computer programming (variables, conditionals, iteration, functions & objects) using JavaScript. In particular it leverages the p5.js creative computing environment which is oriented towards visual displays on desktops, laptops, tablets or smartphones. The course is designed for computer programming novices.

What can computation add to human communication? You will gain a deeper understanding of the possibilities of computation—possibilities that will augment and enhance the perspectives, abilities and knowledge you bring from your field of study (e.g. art, design, humanities, sciences, engineering). At first it may feel foreign, as foreign as learning a new language or way of thinking. But soon, once you get some basic skills under your belt, you’ll be able to make projects that reflect your own interests and passions.

**Syllabus**

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**4.0-UNIT - IMA UNDERGRADUATE COURSES**

**Creative Computing** (4.0 units)
IMNY-UT 101 – 001 (4269) Tu/Th 2:30pm – 6:00pm (05/26 – 07/02)
David Rios Online

No prerequisites.

Physical Computing is an approach to learning how humans communicate through computers that starts by considering how humans express themselves physically. In this course, we take the human body as a given, and attempt to design computing applications within the limits of its expression.

To realize this goal, you’ll learn how a computer converts the changes in energy given off by our bodies (in the form of sound, light, motion, and other forms) into changing electronic signals that
it can read and interpret. You’ll learn about the sensors that do this, and about simple computers
called microcontrollers that read sensors and convert their output into data. In the other direction,
you will learn how to actual physical things in the world with devices like speakers, lights and
motors. Finally, you’ll learn how microcontrollers communicate with other computers.

To learn this, you’ll watch people and build devices. You will spend a lot of time building
circuits, soldering, writing programs, building structures to hold sensors and controls, and
figuring out how best to make all of these things relate to a person’s body.

Syllabus

6-WEEK 2ND HALF COURSES

2.0-UNIT - IMA UNDERGRADUATE COURSES

Code! (2.0 units)
IMNY-UT 1 – 002 (6104) Asynchronous Schedule (07/06 - 08/16)
Dan Shiffman Online

Please note: This course is NOT open to students studying in Accra, London or Madrid due to
legal visa restrictions. This is also NOT open to NYU Shanghai students, as online courses are
not applied toward the degree.

This online 7-week course focuses on the fundamentals of computer programming (variables,
conditionals, iteration, functions & objects) using JavaScript. In particular it leverages the p5.js
creative computing environment which is oriented towards visual displays on desktops, laptops,
tablets or smartphones. The course is designed for computer programming novices.

What can computation add to human communication? You will gain a deeper understanding of
the possibilities of computation—possibilities that will augment and enhance the perspectives,
abilities and knowledge you bring from your field of study (e.g. art, design, humanities, sciences,
engineering). At first it may feel foreign, as foreign as learning a new language or way of
thinking. But soon, once you get some basic skills under your belt, you’ll be able to make
projects that reflect your own interests and passions.

Syllabus

Code! 2 (2.0 units)
IMNY-UT 2 – 001 (6105) Asynchronous Schedule (07/06 - 08/16)
Dan Shiffman Online
Please note: This course is NOT open to students studying in Accra, London or Madrid due to legal visa restrictions. This is also NOT open to NYU Shanghai students, as online courses are not applied toward the degree.

This online 6-week course focuses on applying fundamentals of computer programming in JavaScript to interactive media projects. In particular it leverages the p5.js creative computing environment which is oriented towards visual displays on desktops, laptops, tablets or smartphones. The course is designed for students with a foundation level understanding of programming in JavaScript with the p5.js library. The Code! course (or equivalent) is a prerequisite.

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### 4.0-unit - ITP Graduate Courses

**Synthetic Architectures** (4.0 units)
ITPG-GT 2177 – 001 (4271)  
Tu/Th 12:10pm - 3:05pm (07/07-08/13)  
Jonathan Turner  
Online

For better or worse humanity is heading down the virtual rabbit hole. We’re trading an increasingly hostile natural environment for a socially networked and commercially driven artificial one. Whether it's the bedrooms of YouTube streaming stars, the augmented Pokéstops of Pokemon Go, the virtual tourism of the latest humanitarian crisis or even the "airspace" of Airbnb; we are witnessing a dramatic transformation of what occupying space means. So where are these dramatic spatial paradigm shifts occurring? Who owns and occupies these spaces? Who are the architects and what historical and ethical foundations are they working from? What world do they want to build for humanity and where does the creative individual fit into it? Will it be a walled garden, a role-playing adventure or a tool for creating more worlds? The course will ask students to embrace the role of virtual architect, not in the traditional brick-and-mortar sense of constructing shelter, but in terms of the engagement with the raw concept of space. However, this virtual space must be considered and evaluated as a “site” that is activated and occupied by real people and all the limitations of physical space that they bring with them from the real world. This is the foundation of synthetic architecture; simulated space met with biological perception.

This conceptual architecture is free from the confines of physics but host to a whole new set of questions: How do we embrace the human factors of a dimensionless environment? How do we make or encourage meaningful interactions within the limits of current technology? New models of interaction must inform and shape the architecture of virtual space - what does that look like? How can architecture and aesthetics inform the creation of virtual environments and immersive narratives? How do we acutely consider the psychological and social impacts of the worlds we design and what is the metaphorical ground plane to make sense of this virtual world, unbound by physics?

Syllabus