



Video Still: RGB.VGA.VOLT by James Connolly, 2014 - 2023

REAL-TIME A/V

Course: DM-UY 4913

NEW YORK UNIVERSITY

FALL 2023

School: Tandon School of Engineering

Department: Technology, Culture and Society

Program: Integrated Design & Media

Day: Tuesdays & Thursdays

Time: 2:00pm – 3:50pm

Building: 370 Jay Street

Classroom: 310

Instructor: Monica Panzarino

Email: monica.panzarino@nyu.edu

Office Hours: Wednesdays, 15-minute Slots from 5:00pm – 6:00pm, by Appointment

Office Location: Online via Zoom

Course Site: <https://brightspace.nyu.edu/d2l/home/306839>

COURSE DESCRIPTION:

Real-Time A/V introduces students to the history, theory, and practice of live audiovisual signal processing for experimental media art performance. Through readings, lectures, screenings, discussions, technical instruction, and visiting artists, students will learn how early experiments by video artists and toolmakers have developed, through the years, into contemporary praxis. Hardware-based, analog systems will be introduced along with a variety of software including Signal Culture Apps, Resolume Avenue, and Max/MSP/Jitter. Experimentation, improvisation, play, and chance operations will be encouraged as students develop the technical and conceptual aspects of their independently driven performance and single-channel video projects. We will also examine how the COVID-19 pandemic has affected communities of practitioners and created new avenues for web-based performance. The semester will culminate in a student-organized exhibition of final projects.

COURSE STRUCTURE:

This course consists of screenings, discussions, technical instruction, and critiques of student work. Four main projects, weekly homework, readings, and viewings will be assigned.

IDM PROGRAM GOALS:

The following Integrated Digital Media program goals are introduced and reinforced within this course.

Students will:

- Develop conceptual thinking skills to generate ideas and content in order to solve problems or create opportunities
- Develop technical skills to realize their ideas
- Develop critical thinking skills that will allow them to analyze and position their work within cultural, historic, aesthetic, economic, and technological contexts
- Gain knowledge of professional practices and organizations by developing their verbal, visual, and written communication for documentation and presentation, exhibition and promotion, networking, and career preparation
- Develop collaboration skills to actively and effectively work in a team or group

STUDIO PROJECTS:

Students will complete four 3 – 5 minute self-directed real-time projects that may take the form of recorded or live, in-class performances. These projects are designed to be very open and will not include prompts with regards to content but must contain both an audio and video component, as well as real-time image processing techniques. Students may draw inspiration from the theories and practices discussed in class as well as their own research and conceptual interests. It is expected that students experiment independently with the different tools that are introduced during the semester and students are encouraged to create their own systems for audiovisual performance. A brief proposal/presentation of work in progress will be assigned the week before the project is due and each performance will be followed by a constructive class critique. Collaboration with classmates is always encouraged (but not required).

- Self-Directed Real-Time Project I (due 9/26- Week 4)
- Self-Directed Real-Time Project II (due 10/18- Week 8)
- Self-Directed Real-Time Project III (due 11/15- Week 12)
- Self-Directed Real-Time Project IV (due 12/6- Week 15)

END OF SEMESTER EXHIBITION:

The semester will culminate in a student-organized exhibition of final projects during the weekend of December 16th & 17th. The exact date & time for the show is TBD. Participation in and attendance of the final exhibition is required. This will be a fun opportunity for you to

share your work with a broader audience and gain experience with organizing, promoting, and participating in a real-time A/V show.

WEEKLY SCHEDULE:

The week-to-week schedule is an approximation of the order in which course content will be presented and is subject to change. This weekly schedule is intended to give a sense of the sequence and range of the presentation of concepts, and is unlikely to be the precise trajectory of any given section. Please refer each week to Brightspace for current information. It is important to keep in mind when reviewing this syllabus, that this method of presenting the curriculum cannot illuminate the depth of the history, theory, and practice that accompanies the overview of the conceptual material.

WEEK 1 (9/5 & 9/7): Intro to Real-Time A/V

- Introductions
- Syllabus- Review & Questions
- Introduction to Real-Time A/V: Inputs, Processes, and Outputs
- Early Video Art Histories & Real-Time Now: Watch & Discuss Various Videos

WEEK 2 (9/12 & 9/14): Intro to Signal Culture Apps

******* NOTE: TUESDAY, 9/12 CLASS WILL BE ON ZOOM (JOIN VIA BRIGHTSPACE), AND THURSDAY, 9/14 CLASS WILL BE CANCELLED *******

- Contemporary Real-Time A/V Performance: Watch & Discuss Various Videos
- Signal Culture Apps Demo
- In-Class Work Time

Due Tuesday, 9/19: Proposal for Self-Directed Real-Time Project I

WEEK 3 (9/19 & 9/21): Project I Proposals & Jason Bernagozzi Visit

- Hard Drive Check-in
- Adobe Premiere Video Editing Basics
- Self-Directed Real-Time Project I Proposals
- Visiting Artist Jason Bernagozzi, Co-Founder of Signal Culture, Presentation & Q&A

Due Tuesday, 9/26: Self-Directed Real-Time Project I

WEEK 4 (9/26 & 9/28): Class Critique

- **Class Critique:** Entire class will participate in a critique of each student's first project

Due Tuesday, 10/3: One-paragraph Written Reflection on Self-Directed Real-Time Project I

WEEK 5 (10/3 & 10/5): Origins of Video Art & Image Processing

- Lecture: Origins of Video Art & Image Processing Part I
- Introduction to Analog Video & IDM Video Lab
- Resolume Avenue Tutorials

WEEK 6 (10/12): Visiting Artist (TBA)

- Camera & Mixer Feedback Demo and Q&A With Visiting Artist (TBA)

Due Tuesday, 10/17: Proposal for Self-Directed Real-Time Project II

WEEK 7 (10/17 & 10/19): Project II Proposals & In-Class Work Time

- Self-Directed Real-Time Project II Proposals
- Lecture: Origins of Video Art & Image Processing Part II
- Software Review (as needed)
- In-Class Work Time

Due Tuesday, 10/24: Self-Directed Real-Time Project II

WEEK 8 (10/24 & 10/26): Mid-Semester Critique

- **Mid-Semester Critique:** Entire class will participate in a critique of each student's second project

Due Tuesday, 10/31: One-paragraph Written Reflection on Self-Directed Real-Time Project II

WEEK 9 (11/7 & 11/9): Intro to Max/MSP/Jitter

- Max/MSP/Jitter/ Demo with Luke DuBois, Co-Director of IDM
- Contemporary Real-Time A/V Performance, Programming and Coding Digital Systems: Watch & Discuss Various Videos
- Apple Script Editor
- In-Class Work Time

WEEK 10 (10/31 & 11/2): MIDI Controllers, Microcontrollers & Custom Interfaces

- Introduction to MIDI Controllers, Microcontrollers, Arduino & Custom Interfaces
- Contemporary Real-Time A/V Performance: Watch & Discuss Various Videos
- In-Class Work Time w/Akai MIDI Controllers

Due Tuesday, 11/14: Proposal for Self-Directed Real-Time Project III

WEEK 11 (11/14 & 11/16): Project III Proposals & In-Class Work Time

- Self-Directed Real-Time Project III Proposals
- Contemporary Real-Time A/V Performance: Watch & Discuss Various Videos
- Software Review (as needed)
- In-Class Work Time

Due Tuesday, 11/21: Self-Directed Real-Time Project III

WEEK 12 (11/21): Class Critique

- **Class Critique:** Entire class will participate in a critique of each student's third project

Due Tuesday, 11/28: One-Paragraph Written Reflection on Self-Directed Real-Time Project III

WEEK 13 (11/28 & 11/30): End of Semester Exhibition Discussion & Planning

- Thinking Ahead To End of Semester Exhibition: Title for Exhibition, Choosing a Venue, Designing a Poster, Making Bumpers & More
- Watch & Discuss Other Real-Time A/V Shows

Due Tuesday, 12/5: Proposal for Self-Directed Real-Time Project IV

WEEK 14 (12/5 & 12/7): Project IV Proposals & In-Class Work Time

- Self-Directed Real-Time Project IV Proposals
- End of Semester Exhibition Planning
- Software Review (as needed)
- In-Class Work Time

Due Tuesday, 12/12: Self-Directed Real-Time Project IV

WEEK 15 (12/12 & 12/14): Final Critique

- **Final Critique:** Entire class will participate in a critique of each student's fourth project

Due Tuesday, 12/19: One-paragraph written reflection on Self-Directed Real-Time Project IV

REQUIRED MATERIALS:

Software:

- **Adobe Creative Cloud** (for Mac or Windows). We will be using Adobe Premiere to edit video all semester and you may want to use other Adobe CC software for your

projects (i.e. After Effects, Photoshop, Audition, etc.). Adobe Creative Cloud is the industry standard and it is important that you learn to use this software. If you have Adobe CC on your personal computer, please make sure to keep all apps up to date. If you do not have Adobe CC on your personal computer, you may check out IDM laptops for use on the 3rd floor of 370 Jay Street, use IDM's workstations in Room 325, and use the software at various labs in Brooklyn:

- 2 MetroTech:
 - Room 813 (login is username: IDMStudent, password: IDMAdmin813)
- 6 MetroTech:
 - RH227 is available Monday and Tuesday 9:00am – 6:00pm, Wednesday and Thursday 9:00am – 4:00pm, and Friday 9:00am – 11:00am
 - JAB775 is available Monday – Friday 9:00am – 9:00pm and Saturday 9:00am – 5:00pm
 - RH217 has a schedule on the door
- **Signal Culture Modular Apps Bundle** (for Mac or Windows). The Modular Apps Bundle includes the SC Input Amplifier, Frame Buffer, Maelstrom, SSSScan, Re:Trace, V-Mass, SC Video Mixer, Interstream, and SC Syphon/Spout Recorder apps. This software will be introduced towards the beginning of the semester and IDM has purchased an educational license for each of your laptops. Additionally, the software is installed on the workstations in Room 325 on the 3rd floor of 370 Jay Street. <https://signalculture.org/appbundle.html>. Follow these links to download:
Mac:
<https://www.dropbox.com/scl/fi/uptqgv4rmdzzm9176ggoe/SCappsMac.zip?rlkey=y7qqo119127buqicoshcfltr5&dl=0>
Windows:
<https://www.dropbox.com/scl/fi/eul3885lizeld6igsn79/SC-apps-Win.zip?rlkey=eojr4483r7iyrf3hywz3nu5vb&dl=0>
- **Resolume Avenue** (for Mac or Windows). Resolume Avenue VJ Software is for VJs, AV performers, and video artists. It will be introduced towards the middle of the semester and is installed on the workstations in Room 325 on the 3rd floor of 370 Jay Street. Additionally, IDM *may* purchase educational licenses for each of your laptops... more info on that TBA. <https://www.resolume.com/software>
- **Max/MSP/Jitter** (for Mac or Windows). Max/MSP/Jitter is a visual programming language for music and multimedia that will be introduced towards the end of the semester. IDM has purchased an educational license for each of your laptops. For instructions on how to install Max/MSP/Jitter, visit the announcement on our Brightspace course site. <https://cycling74.com/products/max>

Hardware:

1 Portable 1TB – 2TB External Hard Drive for video editing. Recommended model: LaCie 2TB Rugged USB 3.1 Gen 1 Type-C External Hard Drive, MFR #STFS2000800 (may be purchased on Amazon or B&H for about \$99). Using a common USB 2.0 hard drive for video editing will slow you down considerably and increase your risk of losing your work. I've seen it happen and it's heartbreaking... don't try it! I recommend LaCie Rugged external hard drives because they're the most portable and durable for students. Check out this article for more info about hard drives for video editing: <https://www.digitalcameraworld.com/buying-guides/the-best-hard-drives-for-video-editing>

Other:

- **Sketchbook or Notebook** for brainstorming, sketching, and taking notes during class and critiques

COLLEGE STUDENT INSURANCE

In order to receive materials for your IDM classes this semester, you are required to carry insurance for at least \$3,000. IDM needs proof of this insurance before you can check out the equipment you need to complete your assignments. This does a number of things, but mostly it protects you from having to pay thousands of dollars out of pocket if you break/lose/damage any of the equipment. There's also the added bonus in the recommended insurance that all of *your* stuff gets covered too. So, if you lose your laptop or drop your phone on the subway tracks, your purchase will be insured and covered. IDM requires this because a number of the things you are receiving must be returned at the end of the semester. If you break, lose, or otherwise damage this equipment (which belongs to the University) you are responsible for its full replacement.

How do I get insurance?

Your family may have insurance that covers material goods, or you may have renters insurance already. If so, email a copy of the policy to IDM, and the insurance will be checked to make sure it's all good. If your insurance doesn't cover IDM's equipment, or you don't have insurance yet, College Student Insurance (CSI) at <http://www.collegestudentinsurance.com> can cover you for \$90/year. The benefit of this is not only that you can check equipment out, but all your personal belongings are covered, too. Things that CSI Covers: Computers and laptops, Cell phones, iPhones and other smartphones, iPods, MP3 players and Electronics, Books, Clothes, Bicycles. What CSI protects against: Theft, Fire, Accidental Damage, Flood, Earthquake, Vandalism, Electrical Damage, and Water Damage.

Please direct any questions you may have about insurance to Samantha Jackson, IDM Operations Manager at sj3348@nyu.edu.

HOMEWORK

Homework is assigned on Tuesday each week and **must be completed by the beginning of class on Tuesday of the following week**. Homework will follow the concepts and processes covered in class. In most cases homework will not be a single discreet assignment but will consist of one or more stages of a longer project. Various readings, viewings, writings, and tutorials will be given according to the assignment. Refer to assignment documents on Brightspace for specific requirements.

All classwork and homework assignments are to be completed on time unless the Professor grants a special extension. Extensions will *only* be given for extenuating circumstances like sickness, death of a friend or family member, or problems with technology. To request an extension, you must email the Professor at least 24 hours in advance of the due date. **Homework is due at the beginning of class on the due date. Late assignments will be**

marked down 1/2 grade per day. Excessive late assignments will negatively affect your semester grade.

If you are absent, you are still responsible for submitting the homework on time.
Submit your homework on Brightspace by the start of class at 2:00pm.

READINGS:

Mandatory readings will be assigned and links to PDFs will be posted on Brightspace. Please come to class prepared to discuss the readings. Students may be periodically quizzed on readings.

VIEWINGS:

Mandatory viewings will be assigned. Links to viewings will be posted on Brightspace. Please watch attentively and come to class prepared to discuss the viewings.

ASSESSMENT

Each week's homework is weighted equally and averaged at the end of the semester to form the assignment portion of your semester grade (60%). This is so that you understand the importance of completing **ALL** of your assignments. All work must be documented by the student throughout the semester, allowing periodic assessment by the Professor, and self-assessment by the student.

Breakdown of Semester Grade:

60% Demonstration of conceptual understanding, critical thinking, creative problem-solving, and technical skill in assignments; timely completion of assignments

20% Attendance, prompt arrival to class, and preparedness with correct working materials

20% Class participation, participation in critiques, (i.e. raising your hand & speaking up on a regular basis), demonstrating conceptual understanding, critical thinking, creative inquiry, and focus; adherence to the "Participation & Technology Use In the Classroom" policy (listed below)

Homework Assessment Standards:

- Must be presented on the due date (unless an extension is agreed to)
- Demonstration that assignment parameters are understood and followed correctly
- Degree of conceptual understanding
- Degree of technical skill
- Quality of presentation
- Willingness to revise assignments based on feedback when requested

Classwork Assessment Standards:

- Attendance and punctuality
- Participation in discussion and critiques
- Attentiveness
- Making good use of work time
- Generosity and respect for fellow students

Grading:

A, A- = Excellent

Student consistently demonstrates outstanding ability in comprehension and interpretation of course content. He/she/they exhibits leadership qualities in class, inspiring peers in classwork, homework, and contribution in critiques.

B+, B, B- = Above Average

Student demonstrates a comprehensive knowledge of course content and shows ample growth in skills, ambition, and leadership qualities.

C+, C, C- = Acceptable

Student shows satisfactory understanding of course content. Student's talent, drive, or growth is average.

D = Less than acceptable

Student lacks satisfactory understanding in some important respects. He/she/they exhibits less than average growth, performance, and/or attendance.

F = Failure

Student has not met minimum standards for the course. Does not meet attendance requirements, has inadequate or incomplete homework, lack of class participation.

ATTENDANCE POLICY

Class will meet in-person on Tuesdays and Thursdays each week. However, due to the unpredictable nature of the global pandemic, there may be classes in which we will meet online via Zoom- if this is the case, the Professor will give you prior notice via email. To join online sessions, please go to the Zoom tab in Brightspace and click "Join" on the appropriate date. Make sure to sign into Zoom using SSO. Attendance is mandatory and students are expected to be on time.

- **Lateness: Attendance is taken promptly at the beginning of class.** Lateness is not acceptable; come to class on time every week. Late arrivals affect the entire class and will hurt your grade. **Four latenesses are equivalent to one unexcused absence. Chronic latenesses (five or more) will result in the lateness/attendance portion of your grade being lowered to a 55, or in extreme circumstances, failure.** It is your responsibility to keep track of your latenesses.

- **Absences: It is mandatory to attend all classes.** If you are sick, or unable to attend class, you **must** email the Professor 24 hours in advance in order to be excused. If you email the Professor after class, you will **not** be excused. If you are absent, it is your responsibility to find out what you missed by asking a classmate and checking Brightspace. **It is your responsibility to keep track of your absences.**
 - **Unexcused Absences: Three** unexcused absences will result in the lateness/attendance portion of your grade being lowered to a 55 as well as a reduction of the semester grade by one whole grade. **Four unexcused absences will result in an automatic failure of the course.**
 - **Excused absences: Four** excused absences will result in the lateness/attendance portion of your grade being lowered to a 55 as well as a reduction of the semester grade by one whole grade. **Five excused absences will result in an automatic failure of the course.**

PARTICIPATION & TECHNOLOGY USE IN THE CLASSROOM

Students are expected to be active participants during class. This means speaking up often with comments or questions about the videos that are shown in class and during critiques. Meaningful discussion and thoughtful feedback are key to the enjoyment and success of our class. Students should interact with their classmates and the Professor respectfully at all times.

Students may use their laptops in class for activities that pertain to the course: reading documents, taking notes, working on projects, class presentations, etc. However, students may not use their laptops for checking email, instant messaging, texting, or social networking (sites like Facebook, Instagram, etc.). Cell phone usage during class is not allowed. During class, cell phones should be put away and out of sight. Students may check their cell phones during our breaks. Failure to adhere to this policy will result in a lowering of your participation grade.

On the occasion that class meets online via Zoom, the participation and technology use expectations stated above remain the same. Please keep your camera on whenever possible, and raise a hand with comments and questions. Make sure that your microphone is muted when you are not speaking to avoid distracting background noise. Artistic Zoom backgrounds and video feeds are welcome, especially when they relate to your real-time A/V work.

CHECKING EMAIL

The Professor will periodically send announcements and other important communications via email. Students are expected to check their NYU email on a daily basis and if requested, reply in a timely manner.

ACADEMIC ACCOMODATIONS

If you are a student with a disability who is requesting accommodations, please contact New York University's Moses Center for Students with Disabilities at 212-998-4980 or mosescsd@nyu.edu. You must be registered with CSD to receive accommodations. Information about the Moses Center may be found at <http://www.nyu.edu/csd>. The Moses Center is located at 726 Broadway on the 2nd floor.

IN CASE OF ILLNESS

If you are experiencing an illness or any other situation that might affect your academic performance in class, please email the Office of Advocacy, Compliance and Student Affairs: advocacy.tandonstudentlife@nyu.edu.

INCLUSION STATEMENT

NYU Tandon School of Engineering values an inclusive and equitable environment for all our students. I hope to foster a sense of community in this class; it a place where individuals of all backgrounds, beliefs, ethnicities, national origins, gender identities, sexual orientations, religious and political affiliations, and abilities will be treated with respect. It is my intent that all students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. If this standard is not being upheld, please feel free to speak with me.