TEACHERS COLLEGE, COLUMBIA UNIVERSITY

Department of Arts and Humanities | Program in Art and Art Education

A&HA 4089 001 New Media New Forms

Dr. Richard Jochum | Fall 2016 | CRN 31141

Wed 4:10 PM - 6:40 PM | MMAS (51C Thorndike) & Thingspace (Macy 55) | 2 or 3 credits

A&HA 4089 NEW MEDIA, NEW FORMS

A big part of the creative process is the hands-on dialog with materials. What can this dialog look like when the materials in question expand and include digital materials? New Media New Forms is a survey-style, inquiry-based studio course that explores and reflects the creative possibilities of new and emerging technologies in art education, the impact of technology in the art room, the changing role of the art educator, and the convergence of materials. The outcome is a playful and transformative inquiry into new media and how we can utilize them to create new forms. No prerequisites, no prior knowledge needed. Enrollment limited. Special fee: $100.

Contact Information

Dr. Richard Jochum

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Office hours Wed 2.30-3:45 PM Thu 6:00-7:00 PM by appointment (richardjochum.youcanbook.me).

Services for Students with Disabilities. The College will make reasonable accommodations for persons with documented disabilities. Students are encouraged to contact the Office of Access and Services for Individuals with Disabilities (OASID) for information about registration. You can reach OASID by email at oasid@tc.columbia.edu, stop by 163 Thorndike Hall or call 212-678-3689. Services are available only to students who have registered and submit appropriate documentation. As your instructor, I am happy to discuss specific needs with you as well. Please report any access related concerns about instructional material to OASID and to me as your instructor.

Course Description & Aims

A big part of the creative process is the hands-on dialog with materials. What can this dialog look like when the materials in question expand and include digital materials? New Media New Forms is a survey-style, inquiry-based studio course that explores and reflects the creative possibilities of new media in art education, the impact of technology in the art room, the changing role of the art educator, and the convergence of materials. The outcome is a playful and transformative inquiry into new media and how we can utilize them to create new forms. No prerequisites, no prior knowledge needed. Enrollment limited. Special fee: $100.

New Media New Forms is a core course for the art and art ed program and mandatory for the new creative technologies specialization/certificate. It welcomes students from other programs of the college as well. The course further develops the investigation of artistic materials and puts its focus on an expanded notion of media for art making and teaching: New Media, New Forms.

The course has been designed in conjunction with A&HA 4087, Processes and Structures; instead of working with concrete materials (paper, fibers, cloth, found manufactured materials, paper mâché, scrap materials etc.) and traditional techniques (drawing, reproductive printing etc.), we will focus on new materials, i.e. social media, digital devices (computational devices, cameras, scanners, printers, microphones, internet, 3d-printers, laser-cutters, 3d-scanners, basic circuitry, e-textiles, microprocessors and programming, etc.) and digital fabrication techniques (including 3D modeling, stop-motion animation, scanning, creative coding, sewing, physical computing). The goal is not so much to facilitate classroom technology instruction or the mastering of new technologies - which is offered in subsequent courses, online tutorials, or through specialized workshops - rather than on creative explorations into material thinking and the imaginative processes involving new media and emerging materials. The outcome is a playful and transformative inquiry into how we can utilize new media to create new forms.

Method of instruction

New Media New Forms is a survey-style reflective studio-course including short lectures, group discussions, reflective writing, research of relevant resources, and documentation through a visual journal; individual assignments will be mixed with collaborative projects & and the use of social media technology for in-class learning and online-meetings. Students will take on the roles of digital stewards, keep a blog as their visual journal and investigate the specificity of different types of media and their particular value for creative processes and art making partly during

class and, importantly, through continuous homework assignments, which along with their digital stewardship will be crucial for the learning experience. The main focus lies on the thoughtful, yet playful, and imaginative processes instigated by an expanded notion of art materials and new media. The finished products and "output" will matter as much as the journey toward them and the careful observations of the creative processes, the imaginative use of the digital materials involved, and the personal experiences and collaborations along the way.

Objectives

Students participating in the course are expected to be active learners and will increase their fluency in the use of technology. They will explore ways in which technology can be used as expanded materials for the making of art in their studio practice and/or future classrooms.

Learning Objective 1, art & literacy: learn to draw from their creative potentials and expand their artistic practice.

To achieve this numerous creative assignments will be given throughout the semester.

Assessment: Students will be required to do weekly creative assignments in each medium explored - in class and/or at home. They will explore digital and social media, audio, video, digital fabrication as well as physical computing, basic circuits and creative coding. Participants will work across 2D and 3D, as well as time-based media. A class blog (URL t.b.d.) and collaborative online-spaces (URL t.b.d.) will serve as archives and repositories for individual course work and group achievements.

Learning Objective 2, tech-habits & creativity: approach technology as makers and creators of technology rather than consumers; revisit existing media practices and re-approach them creatively.

To achieve this a creative experiment will be conducted at the beginning of the semester.

Assessment: In order to re-approach technology creatively, students will be encouraged to take a step away from their habitual ways of dealing with computers and mobile devices and create an artistic response to this on/off experience. By creating a critical distance to the immediacy of new media students are able to reconnect to technology in a different way. The visual representation of this experience and self-observations will become part of their individual blog-sites.

Learning Objective 3, research: conduct research into the work of artists and teachers who have been placed at the intersection of new media, learning, and technology.

To achieve this, every type of media explored will be approached through visual examples, discussion and individual research.

Assessment: Throughout the semester students will be shown examples of artists working with new and emerging technologies as their respective material. Students will be required to become digital stewards, conduct, share, and present their research into creative media practices and come up with their own artist-examples. Their individual blog-site and the class site as well as the course LMS (t.b.d.) will serve as a repository for their research and presentations.

Learning Objective 4, education: make connections between digital-based media and their particular value for educators.

To achieve this students will be asked to make numerous connections between technology-infused art making and classroom teaching.
Assessment: Students will engage in class-discussions and individual assignments throughout the semester addressing the integration of new media in classroom teaching. As part of this they will create learning objectives and simple lesson plans, write blog entries and work either individually or - at times - in collaboration.

Learning Objective 5, collaboration: explore the social potential of media learning and digital technologies.
To achieve this students will be asked to approach digital technologies collaboratively on-site and online, alone and together. They will form learning communities and collaborate on select assignments in order to acquire and share knowledge as well as build on the possibilities to engage in team learning with and through technology.
Assessment: Throughout the semester students will work with blogs and wikis, among other far-distance learning platforms. A special assignment, "Impact 25" will serve as a possibility to collaborate and create an artful challenge to help students locate, create, and connect to a broader audience. Select in-class workshops will be conducted in teams, demonstrating how a 21st century classroom and community of learners can share expertise and advance together.

Learning Objective 6, reflect & critique: present and critically reflect their output in a number of presentations and in a final feedback session.
To achieve this students will take reflective notes, be reflective practitioners and share their assignments at multiple points with each other for peer feedback.
Assessment: Throughout the semester students will be required to present their weekly assignments in small groups or with the entire class. Continuous discussions will happen throughout as well as occasional feedback sessions towards the end. Students will be required to present select projects ("Impact25" and "Final Project", among others) that exemplify their artful explorations. Students are encouraged to actively showcase their processes and outcomes.

Learning Objective 7, connecting all materials: explore a broad variety of media while making connections between traditional and new materials as a means to build new combinations.
To achieve this the focus of the class instruction will be put on fluency rather than expertise. Instead of introducing them to classroom technology on the level of quickly out-dated tools and continuously changing software packages; students will be asked to approach new media creatively, i.e. as expanded materials for art making. This will put the focus of the course from being a shallow step-by-step guide of soft- or hardware packages to a deeper learning focusing on how new media can be approached imaginatively and intuitively. While not becoming experts, students will be presented with a survey of new media in contemporary art making and teaching.
Assessment: Students will be asked to work with digital media in a variety of forms. They will be encouraged to actively seek out connections between new media and traditional materials. Apart from "blank" or "empty assignments", which will give students space to connect more deeply with select class-explorations, they will be create a final project in which they combine traditional and new materials. Their individual blogsite, the class-blog, and wikipage will serve as a repository for these explorations.

Personal Learning Objective 8, critical thinking: make connection between class content and what is most important to them to learn.
To achieve this students are encouraged to continuously revisit their own interests and to adapt the homework assignments in a meaningful way to their particular interests and needs.
Assessment: Students are mandated to take ownership of their own learning. If they have troubles with the assignments, they must contact their instructor who will make efforts to accommodate and adjust to their specific needs. Along the same lines, students are expected to tailor their desired learning outcomes (including their homework assignments) with the instructor in order to increase flexibility and adapt to their own, particular learning outcomes in addition to the core learning outcomes as described above.

Learning Objective 9, curiosity & play: Ask for what you need, help each other, have fun, be curious and playful. Technology is a language and if you don't know every new vocabulary — nobody does —, circumscribe what you are trying to say.

Output and Display

This class puts its focus on process as much as on its output. As you will continue to develop and explore ideas in various forms, a number of exhibition possibilities across the program are available to students such as: "The Wall" (i.e. Myer's Media Wall), our LCD Screen (projecting into Macy 4th fl), the wall in front of the Thingspace (Macy 55), and the Macy Gallery with its student-facilitated cross-media-space (contact: Jinyoung Koh and SungGue Kim <tc.crossmediagroup@gmail.com>. The program encourages students to engage in reflective learning and integrated studio practice and to make their work available for public display on- and off-site.

Class Sites

Class blog: http://nmnf2016f.blogspot.com
Read-Write-Space: http://piratepad.net/VDH5K0tXUP

Class Rooms and Rules of Usage

The course will use Myers Media Art Studio (51C Thorndike Hall) as its classroom. We will also utilize the Thingspace, our new art-education Fabrication Laboratorium, (Macy 55), a recent addition to the program, which comprises a number of new fabrication technologies available to our students. Feel free to take advantage of all the resources that are at your disposal. Jessica Jagtiani is the manager and coordinator - along with Kwantaek Park - of the Myers Media Art Studio; Andrew Corpuz along with Sohee Koo coordinate the Thingspace. Please say hello to them and familiarize yourself with the spaces, inventories and policies.

The use of our class rooms comes with some rules: including cleaning up after yourself, borrowing privileges, signing in/out procedures; turning computers off before you leave; or bringing your own storage devices (flash drive; external hard drive, etc.). The studio staff is happy to help you; watch out for their occasional workshops and exhibition opportunities, "The Wall", among others. A general rule for MMAS: Don't customize software; and if you do, you need to put the system back to default settings before you leave. No food or drinks are allowed at the workstation at all times; use the main table setup in the middle instead. Hours of operations fluctuate due to limited staffing. For opening hours see Websites: http://

mmas.pressible.org/ and https://macythingspace.wordpress.com or call Phone: (212) 687-3925 for the MMAS and (212) 678-4189 for the Thingspace.

The MMAS and Thingspace are open to all members of this course. Your course fee covers limited photo-quality printing with the high resolution ink jet printers, and you are encouraged to explore all the digital fabrication tools in the studio, including the MakerBot Replicator2 3D printer, the Roland vinyl cutter, the Epilog Lasercutter (Thingspace), Digital Embroidery Machinery (Thingspace). Some of these tools and processes are covered in the instructional part of this course; others are not; you are encouraged to more fully explore and experiment with any of them as your interest and time allow.

Faculty Information
Richard Jochum is a studio member at the Elizabeth Foundation for the Arts, a creative resident at the T.E.A.M. lab at Harvestworks New York, and associate professor of art and art education at Teachers College, Columbia University. He has worked as a media artist since the late 1990s and has had more than 130 solo shows, groups shows, and screenings world wide, apart from frequently showing net-based art online. Richard received his PhD from the University of Vienna (1997); and an MFA in sculpture and media art from the University of Applied Arts in Vienna (2001). More information about his work can be found on http://richardjochum.net.

Communication
Teachers College students have the responsibility for activating the Columbia University Network ID (UNI) and a free TC Gmail account. As official communications from the College – e.g., information on graduation, announcements of closing due to severe storm, flu epidemic, transportation disruption, etc. – will be sent to the student's TC Gmail account, students are responsible for either reading email there, or, for utilizing the mail forwarding option to forward mail from their account to an email address which they will monitor.

Assessment Requirements / Projects
Assessments will be based on:
— regular attendance (20%)
— participation during class (10%)
— digital stewardship (15%)
— creation of individual assignments (30%)
— "impact 25" (collaborative project) (10%). Due Oct 19 (Unit 7)
— final project (individual) - "3 dice" (15%). Due Dec 14 (Unit 14)
— additional 2 projects for 3-credit point students (to be discussed with instructor)

Due dates: weekly, except for the collaborative project "Impact 25" and the final, individual project (3-Dice). Assessment Criteria: see Class Evaluation Rubric (below).

Note: Making this class a rich learning experience takes time, thought, creativity, and planning. Time spent wisely for designing and working on projects outside of class will be crucial. Please allocate a minimum of 60 hours for out-of-class work for a **2-point-credit** enrollment. Students who haven chosen this course for **3 credits** have to allocate additional time (+30 hours) and course work to meet the requirements for the third credit; in order to coordinate the additional 2 projects, please make an appointment with the instructor; also, please look out for homework

assignments that address 3-credit students in particular. All students are welcome, if not encouraged, to approach the instructor throughout the course and to make appointments to discuss individual learning outcomes.
It is critical for your learning experience to turn in your projects on time and to contact your instructor to better tailor and coordinate your learning process. Turning in past due time without specific acknowledgment will be reflected in lower grades. The quality of work submitted (see course evaluation rubric below) along percentages in total comprise the final grade for the course.

Course Evaluation Rubric

Level of Performance - Evaluation Criteria*		
	Target	**Unsatisfactory**
Journal/Blog	The journal is **consistent** and **comprehensive**. The purpose of the entries are always **clear, well sorted and nicely designed**. The writing is always focused, which also shows in descriptive, clear, and meaningful titles. Details are relevant, supported by **meaningful examples**, including visual examples, and enrich the work. The journal shows **own initiative** apart from just fulfilling the assignments. The **entries explore the theme, are thoughtful, conceptually rich and reflective**. The entries reveal an ability to make connections between art, technology, and teaching. They tackle the specificity of the different types of creative media as presented throughout the course. The exploration of creative technologies is accompanied by **meaningful and detailed connections to the classroom**, which are thoughtful and continuous.	The student does not meet objectives, does not follow directions, the blog appears messy and careless. The entries miss several assignments or continue to be submitted late without notice. The purpose of the work is not defined, appears disconnected; the entries address barely the minimum of the weekly assignments and show no learning outcome or engagement of their own.
Weekly Assignments, Participation & Stewardship	The weekly assignments, participation, and digital stewardship show a **consistent, high level of effort**. The work demonstrates commitment to the course goals, real curiosity and a true spirit of exploration. The assignments are **well documented and executed with craftsmanship, originality, and creativity**. The work is built on **conscious choices and meets both class learning objectives and personal learning objectives**. The student consistently participated in the class through constructive contributions, was **thoughtful, asked good questions, showed positive attitude and made considerate comments**.	The weekly assignments, participation and digital stewardship show no effort, the work stays uninvolved or disconnected. The assignments reveal a clear lack of interest, communication, or cooperation. The student misses assignments without notice, doesn't participate in the class, and shows no responsibility to make up missed work or to communicate difficulties or lateness. The student shows disregard for a constructive milieu and is disrespectful to others.

Level of Performance - Evaluation Criteria*		
	Target	**Unsatisfactory**
Impact25 and Final Project	The work shows a **high level of effort, creativity and originality**. It shows **craftsmanship and care in terms of planning and execution**. It connects clearly to the larger theme of the class and shows artistic relevance beyond the class.	The work shows no effort, interest in the class, craftsmanship, or creativity. The planning and execution is sloppy and disorganized. The student refuses to engage in the process, is unwilling to explore, and continues to be resistant to the prompts and structure. The student takes no responsibility to communicate challenges or lateness.

*To keep it simple this rubric contains min/max values only. The grading will include marks anywhere in between.

Self-Assessment: "Selfie", source: Susan Riley, Education Closet, E-Newsletter

Basis of Grade Determination / Assessment Protocoll

Definition of Grades as cited verbatim from the Office of the Registrar (source: http://www.tc.columbia.edu/registrar/grades.htm)

Grades are defined as follows:	
A+	Rare performance. Reserved for highly exceptional, rare achievement
A	Excellent. Outstanding achievement.
A-	Excellent work, but not quite outstanding.
B+	Very good. Solid achievement expected of most graduate students.
B	Good. Acceptable achievement.
B-	Acceptable achievement, but below what is generally expected of graduate students.
C+	Fair achievement, above minimally acceptable level.
C	Fair achievement, but only minimally acceptable.
C-	Very low performance. The records of students receiving such grades are subject to review. The result of this review could be denial of permission to register for further study at Teachers College. No more than three points of C- may be credited toward any degree or diploma. Students completing requirements for more than one degree or diploma may count three points of C- toward only one such award. A student who accumulates eight points or more in C- or lower grades will not be permitted to continue study at the College and will not be awarded a degree or diploma.
F	Failure. The records of students receiving such grades are subject to review. The result of this review could be denial of permission to register for further study at Teachers College. A course usually may not be repeated unless it is a required course. When the course is required, the student will reregister and obtain a satisfactory grade. The previous grade remains on the transcript.
P	Passed. Some courses are graded only on a pass/fail basis for the instances in which greater evaluation specificity is neither required nor desirable and is used to indicate passing performances when only dichotomous evaluation is used. At no time will the transcript carry any other grade nor will supplementary statements be issued. Application for the Pass/Fail option is to made during the first three class sessions with the approval of the course instructor. Applications are available in the Office of the Registrar, 150 Horace Mann. Once the option is approved, it may not be changed.
DP	Doctoral pass credit. The grade of DP may be assigned only to a certified doctoral candidate in a Teachers College course, having successfully completed all requirements prescribed by the instructor. The candidate must request DP credit before two-thirds of the class sessions have met. Eligibility is determined upon presentation of the doctoral identification card, and a record of the request for a DP grade is made by completing a form obtainable from the Office of the Registrar. DP credit is available to doctoral students only in terms subsequent to the terms in which the student is certified. DP credit may not be used toward M.A. or M.S. degree requirements. A maximum of 6 points of DP credit may be used toward Ed.M. degree requirements.
WD	Withdrawn. Withdrawal occurring subsequent to the close of the change-of-program period during the term. See section on withdrawal from courses.
YC	Year Course. The symbol "YC'' is assigned for the first half of a year course (courses with a "z'' suffix). At the end of the second half, the grade is entered on the transcript denoting the instructor's evaluation.
R	Attendance Credit. Students desiring R credit for any course must request permission, in writing, to the instructor, before two-thirds of the class sessions have met. The instructor may approve or deny the request. If approval is granted, the instructor may stipulate requirements to be met in addition to regular attendance. Forms are available in the Office of the Registrar to be used for obtaining approval. Mathematics majors in the department of Mathematics and Science Education must have their applications cosigned by the program coordinator. The applicability of R credit in meeting degree program requirements is noted as follows: For Master of Arts and Master of Science degrees, no R credit is permissible. For Master of Education degree programs, a maximum of six semester hours of attendance credit is acceptable in meeting the point requirement, but may not be used to satisfy the three-course out-of-department requirement. For doctoral programs, a maximum of nine semester hours of attendance credit is permitted toward the minimum point requirement for the degree, provided they are not used to fulfill the minimum distribution requirements.

Incompletes IN Incomplete

The grade of Incomplete will be assigned only when the course attendance requirement has been met but, for reasons satisfactory to the instructor, the granting of a final grade has been postponed because certain course assignments are outstanding. If the outstanding assignments are completed within one calendar year from the date of the close of term in which the grade of Incomplete was received and a final grade submitted, the final grade will be recorded on the permanent transcript, replacing the grade of Incomplete, with a transcript notation indicating the date that the grade of Incomplete was replaced by a final grade. If the outstanding work is not completed within one calendar year from the date of the close of term in which the grade of Incomplete was received, the grade will remain as a permanent Incomplete on the transcript. In such instances, if the course is a required course or part of an approved program of study, students will be required to re-enroll in the course including repayment of all tuition and fee charges for the new registration and satisfactorily complete all course requirements. If the required course is not offered in subsequent terms, the student should speak with the faculty advisor or Program Coordinator about their options for fulfilling the degree requirement. Doctoral students with six or more credits with grades of Incomplete included on their program of study will not be allowed to sit for the certification exam.

Attendance Policy

Students are expected to be punctual for and attend all classes for which they are registered any group meetings scheduled for group projects, and the timely completion and submission of coursework. You are responsible for any absences incurred and work missed and should consult with the instructor. All class times are required for attendance. If you are unable to attend class due to illness or a viable reason, please make certain to email the instructor in advance of the class. Excessive absence and tardiness will affect your grade.

Help, Guidance & Feedback

Frequent feedback and evaluation will be important to fine-tune content, instruction, and direction of the course. This puts responsibility on either side of the classroom: participants and instructor. Please let me know how to best support you, particularly if you experience challenges, and contact me without hesitation if you need particular or additional feedback or help. Take advantage of email (rj2137@columbia.edu) and office hours (richardjochum.youcanbook.me).

Additional Information

Teachers College students have the responsibility for activating the Columbia University Network ID (UNI) and a free TC Gmail account. As official communications from the College – e.g., information on graduation, announcements of closing due to severe storm, flu epidemic, transportation disruption, etc. – will be sent to the student's TC Gmail account, students are responsible for either reading email there, or, for utilizing the mail forwarding option to forward mail from their account to an email address which they will monitor.

Teachers College has been using Moodle as a Learning Management System. If you need help with Moodle, please check out https://sites.google.com/a/tc.columbia.edu/moodle2helpstudents/. For more step-by-step guides, please refer to lynda.com, a very rich resource of high-quality video tutorials on a broad spectrum of common and specialized software, including Moodle, Photoshop, Illustrator, iMovie, Movie Maker, etc. As a student of TC

you have free access. On campus you can access Lynda.com from http://iplogin.lynda.com/. Off campus, please use http://www.lynda.com/portal/columbia. Students of CTC are encouraged to explore Mahara as a platform to benefit from a more comprehensive teaching/learning e-portfolio (https://sites.google.com/a/tc.columbia.edu/mahara-help/).

Religious Observance

It is the policy of Teachers College to respect its members' observance of their major religious holidays. Students should notify instructors at the beginning of the semester about their wishes to observe holidays on days when class sessions are scheduled. Where academic scheduling conflicts prove unavoidable, no student will be penalized for absence due to religious reasons, and alternative means will be sought for satisfying the academic requirements involved. If a suitable arrangement cannot be worked out between the student and the instructor, students and instructors should consult the appropriate department chair or director. If an additional appeal is needed, it may be taken to the Provost.

If you are aware that you will miss a class it is your responsibility to notify the instructor and if necessary make alternative arrangements to access the information. Liaising with the instructor well before the class to be missed is essential.

Sexual Harassment and Violence Reporting

Teachers College is committed to maintaining a safe environment for students. Because of this commitment and because of federal and state regulations, we must advise you that if you tell any of your instructors about sexual harassment or gender-based misconduct involving a member of the campus community, your instructor is required to report this information to the Title IX Coordinator, Janice Robinson. She will treat this information as private, but will need to follow up with you and possibly look into the matter. The Ombuds officer for Gender-Based Misconduct is a confidential resource available for students, staff and faculty. "Gender-based misconduct" includes sexual assault, stalking, sexual harassment, dating violence, domestic violence, sexual exploitation, and gender-based harassment. For more information, see http://sexualrespect.columbia.edu/gender-based-misconduct-policy-students.

Academic Integrity and Learning Objectives/Outcomes

Students who intentionally submit work either not their own or without clear attribution to the original source, fabricate data or other information, engage in cheating, or misrepresentation of academic records may be subject to charges. Sanctions may include dismissal from the college for violation of the TC principles of academic and professional integrity fundamental to the purpose of the College.

Course Synopsis

Course Synopsis, Resources, and Assignments*			
Session	Topic	Studio Workshop	Preparations / Assignments
Unit 1 · Sep 7 · 4:10 - 6:40 PM	**Introduction & Set-up.** Objective: Align expectations and learning outcomes.	Posting Text, Images, Video & Code	a) Study the syllabus and define personal learning objectives
Assignments #1, due Sep 13, 2016, 11:59 PM 1) Create an individual blog with a first entry that introduces you and your educational background. Add a few sentences about your experience-level with new media. Post a photographic portrait of yourself in the sidebar of your blog. 2) Conduct a short research online and locate an artist who uses technology as an important part of her studio practice or teaching. Write a blog entry about his/her work and how he/she uses technology creatively (1 paragraph; include a reference image of her/his work; do not copy/paste text, use your own words to summarize). 3) Research an art institution/gallery/museum or, if you prefer, school that focuses on technologies and list the type of media they specialize in. 4) Read Douglas Rushkoff, either Chapter 1 or 2, and share two take-aways on your blog. 5) Become a digital steward for one subtopic-area of this course and select your presentation spot through our read/write-page http://piratepad.net/VDH5K0tXUP. 6) Study the syllabus and clarify with the instructor any question that you may have. General notes: a) Your blog will serve as your visual journal throughout the semester. You will use it as an archive, as a repository for homework, and as your visual journal. Use it also to reflect your learning process and to post notes from the class. Make entries related to our topic along the way including sketches drafts, media files, links, etc. b) Give your blog posts descriptive titles that identify each assignment (1/1, 1/2, etc) so you (and others) can follow your progress throughout the semester. c) Let the instructor know how to best support you. As a community of learner, look out for each other; if you see a class mate struggling, please help if you can and bring it to the my attention. Take advantage of office hours and make appointments; it's easy: richardjochum.youcanbookme.com. d) Feedback: Ask for specific feedback where you need it. And give each other feedback, too. I will ask you at times to do just that. Linking Assignments with Learning Objectives (LO): Set up blog (LO 5) Research (LO 3) Connect & Reflect (LO 4, 7)		
Section I: Technology, Screens, and Social Media Required Readings due: Rushkoff, D., & Purvis, L. (2011). Program or be programmed: ten commands for a digital age. Berkeley, CA: Soft Skull Press. Chapter I (Time) and/or II (Place). Baym, N. K. (2010). Personal connections in the digital age. Cambridge, UK; Malden, MA: Polity. Conclusions. Peppler, K. A. (2014). New creativity paradigms: arts learning in the digital age. Intro and Chapter 2 Recommended Reading: Davidson, C. N., & Goldberg, D. T. (2010). The future of thinking learning institutions in a digital age. Cambridge, Mass.: MIT Press. Chapter 3: Our Digital Age: Implications for Learning and Its (Online) Institutions			
Unit 2 · Sep 14 · 4:10 - 6:40 PM	**Social Media. Technology in Art Education.** Objective: Develop an unbiased, critical understanding of "technology" and how we relate to it. Explore how technology has affected teaching and learning. Understand what "new media" means in the arts.	Advanced Blog Settings. Role-Play	a) Bring a piece of technology to class b) Select a subtopic and become a digital steward
Assignments #2, due Sep 20, 2016, 11:59 PM 2) A creative relationship with technology is dependent upon the ability to control rather than being controlled, i.e. on the ability to set boundaries. This is of particular relevance when it comes to interactive screens and social media. Go to http://eetiquette.com and pick three select quotes that resonate with you and re-post them as screenshots on your blog. Add a sentence, if you like, why you chose each. 2) On/off experiment, part 1: While having been with your computer/digital devices for a while, decide to leave them and turn them off. Find artful ways to exit the online world. Document your experience on your blog (1-2 paragraphs). 3) On/off experiment, part 2: Create an artistic response based on this experience and bring the outcome into our next class so we can share. Take pictures of the outcome and post them onto your blog; add a description as needed. 4) Impact25Project: Identify a class mate and start working in pairs. Brief: Create a project that involves 25 people in one way or another. The goal of this assignment is to bring forward the social aspect and potential of technology. If a certain way to achieve this goal is not feasible, consider changing or expanding your approach. Examples: You could put together 25 links to works that relate to yours; or you could have 25 people commenting on or evaluating your work. Or imagine the production of your work would be based on the involvement of 25 people. Understand that you are not tied to one approach; instead feel free to change strategy as needed. Assignment 2/4 is due October 19, Unit 7, in class. Linking Assignments with Learning Objectives (LO): Creative Assignment: On/Off (LO 1, 2, 8, 9), Research (LO 3), Connect & Reflect (LO 4, 7), Present (LO 6)		

Course Synopsis, Resources, and Assignments*			
Session	Topic	Studio Workshop	Preparations / Assignments
Unit 3 · Sep 21 · 4:10 - 6:40 PM	**Digital Drawing, Sketching & Painting.** Objective: Understand the difference and potential of drawing, sketching and painting with digital means.	Photoshop: Digital Collage	a) Creative Assignment: Digital Drawing/Painting (LO 1, 8, 9) b) Research (LO 3) c) Connect & Reflect (LO 4, 7) d) Present (LO 6)
Assignments #3, due Sep 27, 2016, 11:59 PM 1) Create a digital collage. It is up to you where you want to go with this thematically and creatively; just put some time into it and have fun. The goal is to explore the artistic potential of drawing/painting digitally in art classrooms and studios. Feel free to collaborate with one another as long as you identify the individual contributions in the making. Post the outcome on your individual blog and a short reflection on your experience with this exploration and potential of it. Resources: a) lynda.com/portal/columbia; "Digital Painting Fundamentals". b) http://community.wacom.com/en/inspiration/blog/2014/june/how-to-sketch-awesomely-in-photoshop/.			
Unit 4 · Sep 28 · 4:10 - 6:40 PM	**Digital Photography with and without Cameras.** Objective: Find an entry point to digital photography. Explore ways in which we can approach it creatively; as artists and as educators. Explore photography as an instrument that helps us "see". Explore photography as an instrument that help us to tell stories, teach art and facilitate meaning making.	E-Books	a) Creative Assignment (LO 1, 8, 9) b) Research (LO 3) c) Connect & Reflect (LO 4, 7) d) Present (LO 6) e) Impact 25: initial ideas (LO 1, 5, 7 & 8)
Assignments #4, due Oct 4, 2016, 11:59 PM 1) Creative Assignment: Come up with 2 interesting ideas about what you would like to do with the image you took in class and where you would like to go from here, artistically. Post your image and describe both ideas. 2) Post the current status of your Impact25work on your blog. Include a preliminary sketch or image, on your blog. Point out with whom you collaborate. Reminder: the final outcome of this collaborative project is due on Oct 19. 3) Blank/Empty assignment: Go back to what we have achieved in class so far and think about what specific assignment you would like to explore more or do differently now. Do it. Post the outcome along with a description on your blog. Use your personal learning objective as your guide. 4) Think about digital photography as a medium, about its materiality and process, and in which way it lends itself to art-making. Make three connections to children. Resources: Photography 101 and Foundations of Photography http://lynda.com/portal/columbia A Beginner's Guide to Digital Photography: http://www.makeuseof.com/tag/guide-to-digital-photography/ Copyright Online & Creative Commons Licenses: http://creativecommons.org/			
Oct 1-2 World-Makerfaire, Sat-Sun, 10:00 AM - 6:00 PM, http://makerfaire.com/new-york/			
Section II: Digital Story Telling through Images, Video, and Audio Required Readings: Knobel, M., & Lankshear, C. (2007). A new literacies sampler. New York: P. Lang. Chapter 4, New literacies and social practices of digital remixing. Peppler, K. A. (2014). New creativity paradigms: arts learning in the digital age. Chapter 3, The New Digital Arts: Forms, Tools, and Practices. Frazel, M. (2010). Digital storytelling guide for educators. Eugene, Or.: International Society for Technology in Education. Chapter 3: Digital Story Production. The Act Of Listening. (n.d.). Retrieved May 28, 2016, from http://www.npr.org/programs/ted-radio-hour/411697251/the-act-of-listening			
Unit 5 · Oct 5 · 4:10 - 6:40 PM	**Video & iMovie.** Objective: Learn how to plan, produce, create, edit a video including titles & credits. Discuss video as a popular form of youth–media. Investigate how it can be brought into an art-class.	iMovie project	a) Creative Assignment (LO 1, 8, 9) b) Research (LO 3) c) Connect & Reflect (LO 4, 7) d) Present (LO 6)

Course Synopsis, Resources, and Assignments*			
Session	Topic	Studio Workshop	Preparations / Assignments
Assignments #5, , due Oct 11, 2016, 11:59 PM 1) Creative Assignment: Similarly to what we have done in class: Create a short video from a template video of your choice. Post both onto your blog so we can compare. Use iMovie for the making (or any other video editing software that works best for you). Add titles and credits (including a link to the reference video; if you try to reference a section of a youtube-clip, use https://www.tubechop.com). Help: Use lynda.com as a resource and the following short guide as mentioned in class: http://www.macworld.co.uk/how-to/mac-software/imovie-in-10minutes-3536690. 2) Describe the creative potential of video and what it can do for art classrooms or education in general (2 paragraphs). Resources: Video school https://vimeo.com/videoschool Foundations of Video: The Art of Editing at http://lynda.com/portal/columbia			
Unit 6 · Oct 12 · 4:10 - 6:40 PM	**Sound & Audacity.** Objective: Explore the creative potential of sound in the practice of an artist and for a classroom.	Audacity	a) Creative Assignment (LO 1, 8, 9) b) Research (LO 3) c) Connect & Reflect (LO 4, 7) d) Present (LO 6)
Assignments #6, due Oct 18, 2016, 11:59 PM 1)Walk around and listen in your environment for sounds. Record 3-4 sounds to use as material for a composition (you should be able to use your smart phone as a recorder, or any other recording device; there are free apps such as Voice Record Pro or Voice Recorder that you can use along with your phone). As you consider combining these sounds, create one more sound and record it. This can come from any instrument that you choose (an object, your body, your voice, etc.). Use audacity (free download) to compose, combine, layer, and manipulate these sounds. Share the outcome by uploading the file to Soundcloud and copy the code onto your blog. Add a title to your piece and a description (50-100 words) about the process. 2) Create a blog post in which you reflect your observations on sound in your life, in the arts, and in the curriculum. What have you noticed, what do you observe? 3) Instead of a text for you to read, I'm adding a podcast for you to enjoy, "The Act of Listening": http://www.npr.org/programs/ted-radio-hour/411697251/the-act-of-listening. 2) Finish working with your collaborator on the Impact25 project and present its final form in class. 3) Revisit the assignment and respond to the question: How could you push this assignment further? What would you do differently now? Where would you want to go next? Respond with a post on your blog. If you prefer to create your own instrument rather than recording sounds from your environment, that's also great. In this case record a short sequence of sounds from your instrument, once it's done, and upload it to soundcloud. Embed the soundcloud file in your blog along with an image of your instrument on your blog. Resources: 10 min tutorial on Audacity, sign in with your tc-email: https://drive.google.com/a/tc.columbia.edu/file/d/0B5nUuTpbH-xxYjRLQmZzbUJuRlk/view?usp=sharing. Remix Theory. The Aesthetics of Sampling. Eduardo Navas, 2013. Link: hNp://remixtheory.net/ Recommended Lecture: EdLab Seminar September 2014: Breaking the Sound Barrier: hNp://bit.ly/1lzqGpd http://www.npr.org/blogs/ed/2014/11/07/361921500/pythagoras-iphone-is-listening-a-lost-classroom- art Lyall, S. (2010, December 10). Sound as Art: Susan Philipsz's Turner Prize-Winning Work. The New York Times. Retrieved from http://www.nytimes.com/2010/12/11/arts/design/11turner.html			
Unit 7 · Oct 19 · 4:10 - 6:40 PM	**Scanography**. Objective: Understand how scanning can be a creative tool for art educators. Explore materials, composition, color, and depth. Explore how scanning is similar and how it is different from print-making, photography, or sculpture.	Scanography. Present & critique Impact 25 projects.	Due: Impact 25 a) Creative Assignment (LO 1, 8, 9) b) Research (LO 3) c) Connect & Reflect (LO 4, 7) d) Present (LO 6) e) Impact 25: initial ideas (LO 1, 5, 7 & 8)

Course Synopsis, Resources, and Assignments*			
Session	Topic	Studio Workshop	Preparations / Assignments
Assignments #7, due Oct 25, 2016, 11:59 PM 1) Create two series of scanographs with 4 images each; group both series around a theme, an idea, or a story. Feel welcome to work collaboratively if that adds something unique to your process. Present your outcome by either a) Printing them on our MMAS ink jet printers and present the 8 prints in our next class. Or b) Creating an eBook. 2) Look at each others homework and give each other comments. Leave a minimum of 7 thoughtful comments, which provide feedback to the work as well as recommend ways to take the work further. Indicate on your blog who you gave comments to and share in a few sentences your take-away from looking at each other's assignments. 3) Share 3 take-aways from the section-readings on your blog. Resources: http://www.scantips.com/, http://www.scantips.com/begin.html http://en.wikipedia.org/wiki/ Scanography http://electronicportfolios.org/ALI/graphics-scanner.pdf http://www.bbc.co.uk/webwise/guides/using-a- scanner			
Unit 8 · Oct 26 · 4:10 - 6:40 PM	**Stop-Motion Animation.** Objective: Explore stop motion animation as a creative medium and form of digital story telling.	iStopMotion	a) Creative Assignment (LO 1, 8, 9) b) Research (LO 3) c) Connect & Reflect (LO 4, 7) d) Present (LO 6)
Assignments #8, due Nov 1, 2016, 11:59 PM 1) Choose from the following two options: a) Create a short stop motion animation similar to what we did in small groups in class. Post the outcome on your blog. Create a powerful digital narrative while making sure you have some fun with this. Or: b) Create an animated gif. 2) While you create your stop motion animation, document your process. Take pictures of all steps involved so you (or anybody else) can reproduce what you did at any given time in the future. Post your documentation on your blog. Add as much description as necessary. 3) Come up with a lesson plan idea for a target audience of your choice for any one of these three subject matters: photography, scanography, or stop-motion animation. Make your pick and post the outcome on your blog. 4) (Only applicable to 3-credit students): If you are enrolled in this course for 3 credits, address in a blog post how you plan to meet the expected additional course work; Resources: "Getting Started with Stop Motion Animation" (Richard Harrington), at: http://lynda.com/portal/columbia. Recommended Reading: Ohler, J. (2007). Digital Storytelling in the Classroom: New Media Pathways to Literacy, Learning, and Creativity. Corwin Press. Getting Started with Stop Motion Animation, at: http://lynda.com/portal/columbia			
Section III: Digital Fabrication and Creative Coding Required Readings: Peppler, K. A. (2014). New creativity paradigms: arts learning in the digital age. Chapter 4, New Media Arts, The Do-It-Yourself Movement, and the Importance of Making. Martinez, S. L., & Stager, G. (2013). Invent to learn: making, tinkering, and engineering in the classroom. Torrance, Calif.: Constructing Modern Knowledge Press. Chapter 6, Making Today. Thomas, D., & Brown, J. S. (2011). A new culture of learning: cultivating the imagination for a world of constant change. Lexington, Ky.: CreateSpace?]. Chapter 1, Arc-of-Life Learning. Educause, 2013: 7 Things You Should Know About Makerspaces, URL: https://net.educause.edu/ir/library/pdf/eli7095.pdf			
Unit 9 · Nov 2 · 4:10 - 6:40 PM	**Scratch.** Objective: Understand the possibilities of creative coding. Get introduced to the visual programming language scratch. Explore the making of a basic video game.	scratch.mit.edu	a) Creative Assignment (LO 1, 8, 9) b) Research (LO 3) c) Connect & Reflect (LO 4, 7) d) Present (LO 6)
Assignments #9, due Nov 8, 2016, 11:59 PM 1) Create a basic, interactive game, sketch or animation with Scratch, set yourself goal and work toward it; post the result on your blog; (once you share your project on scratch with the public, you should be able to access its "embed"-code and paste it into your blog. Consult the in-built tutorial on the Scratch site for additional help. You can also watch the lynda.com tutorial "Programming animations: Scratch", url: http://www.lynda.com/JavaScript-tutorials/Programming-animations-Scratch/155284/165458-4.html. 2) Create a blog entry about your Scratch experience and make 2 connections to the art classroom.			
Unit 10 · Nov 9 · 4:10 - 6:40 PM	**2D Design. Laser-Cutter. Vinyl Cutter.** Objective: Explore the difference and similarities between art and design. Understand in which way art can benefit from the inclusion of design.	Design-Project	a) Creative Assignment (LO 1, 8, 9) b) Research (LO 3) c) Connect & Reflect (LO 4, 7) d) Present (LO 6)
Assignments #10, due Nov 16, 2016, 11:59 PM 1) Complete your 2D project and output your design either with the laser or vinyl cutter. Bring the outcome to our next class.			

Course Synopsis, Resources, and Assignments*			
Session	Topic	Studio Workshop	Preparations / Assignments
Unit 11 · Nov 16 · 4:10 - 6:40 PM	**3D Design. 3D Modeling & 3D Printing.** Objective: Explore basic concepts of 3D modeling and digital fabrication.	Tinkercad	Define Final Projects a) Creative Assignment (LO 1, 8, 9) b) Research (LO 3) c) Connect & Reflect (LO 4, 7) d) Present (LO 6)
Assignments #11, due Nov 29, 2016, 11:59 PM 1) You started to create a 3D model through Tinkercad in class (theme of your model: a piece of jewelry, a trophy, or another form of your own choosing). Output your model through Makerbot - with the help of the studio staff - and bring it to our next classes to share. Post a screenshot of your Tinkercad model and a photograph of the 3D printed outcome on your blog along with a short paragraph reflecting your experience. Use either MMAS or the Thingspace for your print. 2) What did the three dice cast for you? Come up with an initial idea for your final project and post it on your blog. Resources: https://www.tinkercad.com/ Tinkercad, at: http://www.lynda.com/portal/columbia Tinkercad: Modeling Custom Designs for 3D Printing; with Kacie Hultgren. http://www.lynda.com/portal/columbia What you can make with 3D printing 3D Printing; with Kacie Hultgren http://www.lynda.com/portal/columbia 3D Printing in the Classroom; with Mike Hathorn http://www.lynda.com/portal/columbia			
Nov 23 · No Class. Happy Thanksgiving!			
Section IV: Physical Computing and Electronics Required Readings: Papert, S., & Solomon, C. (1971). Twenty things to do with a computer. [Cambridge, Mass.]: Massachusetts Institute of Technology, A.I. Laboratory. URL: http://dspace.mit.edu/bitstream/handle/1721.1/5836/AIM-248.pdf?sequence=2 Martinez, S. L., & Stager, G. (2013). Invent to learn: making, tinkering, and engineering in the classroom. Torrance, Calif.: Constructing Modern Knowledge Press. Chapter 1, History of Making Hertz, G. (2012). Critical making. United States: Telharmonium. Select Chapter: Michael Dieter & Geert Lovink: Theses on Making in the Digital Age. Recommended Reading: Blikstein, P. (2013). Digital fabrication and "making"in education: The democratization of invention. FabLabs: Of Machines, Makers and Inventors, 1–21.			
Unit 12 · Nov 30 · 4:10 - 6:40 PM	**Basic Circuitry & Pop-up Card. Fabtronics & Wearable Design**. Objective: Learn basic vocabulary and potentials of physical computing, basic circuits, and how to work with it creatively.	Basic Circuitry and Pop-up Card	a) Creative Assignment (LO 1, 8, 9) b) Research (LO 3) c) Connect & Reflect (LO 4, 7) d) Present (LO 6) e) Initial Ideas: Final Project (LO 1, 7, 8, 9)
Assignments #12, due Dec 6, 2016, 11:59 PM 1) Create a basic circuit project with paper/craft materials (e.g. a pop-up-card or an individual page within a collaborative book). Document/Photograph the basic steps that were involved in the making and put them up as a step-by-step guide (see: http://www.instructables.com/id/How-to-Create-a-Feature-Worthy-Instructable/?ALLSTEPS) on your blog or, if you prefer, publish it on instructables.com (the login should be the same as your tinkercad account). Or: Create a soft circuit involving fabric and bring it to class. Document the basic steps that were involved in the making and put them up as a step-by-step guide (see: http://www.instructables.com/id/How-to-Create-a-Feature-Worthy-Instructable/?ALLSTEPS) on your blog or, if you prefer, publish it on instructables.com (the login should be the same as your tinkercad account). 2) Make 3 connections between "making" and an art-classroom. Here are 2 resources, which you might find helpful towards this: a) http://blogs.kqed.org/mindshift/2013/07/gary-stager-tinkering-project-based-learning-sylvias-mini-maker-show/ and b) http://kindleweb.s3.amazonaws.com/content/B00CQDRF84/gz_sample.html#95329 (I suggest to focus on subchapter "Fab", from "In his 2005 book..." till "satisfied by technology they invent and fabricate for themselves." Resources: Circuit Sticker & Origamy http://technolojie.com/circuit-sticker-sketchbook/ Circuit Tutorials: http://chibitronics.com/learn/ High-Low Tech: http://highlowtech.org Fabtronic Tutorials: http://teknikio.com/learn.php Tinkering Studio: http://tinkering.exploratorium.edu/projects 21st Century-Notebooking: https://nexmap.squarespace.com/21c-notebooking-io Popup-book Tutorial: http://www.auntannie.com/greetingcards/Step_Popup/ And: http://www.wikihow.com/Make-a-Pop-up-Book On basic circuits: http://highlowtech.org/?p=2505			
Unit 13 · Dec 7 · 4:10 - 6:40 PM	**Microprocessors & Motors. Makey-Makeys and Artbots.** Objectives: Explore basic sensors, e-textiles & wearable design, and maker kits (such as makey-makey).	Makey-Makey	a) Creative Assignment (LO 1, 8, 9) b) Research (LO 3) c) Connect & Reflect (LO 4, 7) d) Present (LO 6)

Course Synopsis, Resources, and Assignments*			
Session	Topic	Studio Workshop	Preparations / Assignments
Assignments #13, due Dec 13, 2016, 11:59 PM 1) Finish your final project so you can present it in our next class; consider coming in prior to our class to best present your work. 2) Document your final project on your blog with good images and descriptions (due: 1 day after class). 3) Revisit the class as a whole and create a blog entry about what you have learned. Address what you see as the potential of using technology-infused materials for art making and classrooms. Take a Selfie" (s. p29 below). Include your own learning objectives in this assessment: describe how you managed to meet, change, or not meet these goals. 4) (Applies to 3-credit students only): If you are enrolled in this course for 3 credits, address in a blog post how you have met the expected additional course work; add images if possible. PS: All homework and final assignments become due on Dec 14; if you need extra time, approach the instructor in advance. Resources: https://www.youtube.com/watch?v=z8x6C5W8y8c#t=14 http://makezine.com/2008/11/05/howto-tuesday-drawdio-mee/ http://web.media.mit.edu/~silver/drawdio/remix.htm http://makezine.com/projects/Building-BrushBot-Kits/			
Unit 14 · Dec 14 · 4:10 - 6:40 PM	**Final Projects Presentation**. Wrapping up.	Presentation and Critique of Final Projects	Due: Final Project
*Subject to revision based on student needs.			

Textbooks

New Media New Forms is a reflective, studio-infused course focused on creative exploration and doesn't necessitate reading in any comprehensive manner. For students who want to further reflect and deepen their learning through literature, here are four recommended books:

Fleming, L. (2015). Worlds of making: best practices for establishing a makerspace for your school.

Martinez, S. L., & Stager, G. (2013). Invent to learn: making, tinkering, and engineering in the classroom. Torrance, Calif.: Constructing Modern Knowledge Press.

Thomas, D., & Brown, J. S. (2011). A new culture of learning: cultivating the imagination for a world of constant change. Lexington, Ky., CreateSpace.

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These are additional books relevant to Creative Technologies and possibly of interest to you:

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Bartscherer, T., & Coover, R. (2011). Switching codes: thinking through digital technology in the humanities and the arts. Chicago; London: University of Chicago Press.

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Bentkowska-Kafel, A., Cashen, T., & Gardiner, H. (2005). Digital art history: a subject in transition. Bristol: Intellect.

Blikstein, P. (2013). Digital fabrication and "making"in education: The democratization of invention. FabLabs: Of Machines, Makers and Inventors, 1–21.

Boddington, A., & Boys, J. (2011). Re-shaping learning: a critical reader: the future of learning spaces in a post-compulsory education. Rotterdam; Boston: Sense Publishers.

Boellstorff, T. (2008). Coming of age in Second Life: an anthropologist explores the virtually human. Princeton: Princeton University Press.

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Briggs, M., Schaffer, J., University of Maryland, C. P., & College of Journalism, K. C. N. N. (2007). Journalism 2.0 how to survive and thrive; a digital literacy guide for the information age. [College Park, Md.]: J-Lab: The Institute for Interactive Journalism, Philip Merrill College of Journalism, University of Maryland.

Brockman, J. (2011). Is the Internet changing the way you think?: the net's impact on our minds and future. New York: Harper Perennial.

Brown, J. S., & Adler, R. P. (2008). Minds on Fire: Open Education, the Long Tail, and Learning 2.0. EDUCAUSE Review, 43(1), 16–20,22,24,26,28,30,32.

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Buechley, L., Peppler, K. A., Eisenberg, M., & Kafai, Y. B. (2013). Textile messages: dispatches from the world of e-textiles and education.

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Endowment for the Humanities. Washington, D.C: Council on Library and Information Resources. Retrieved from http://www.clir.org/pubs/reports/pub145/pub145.pdf

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Additional Web-Resources

Tutorials:
Lynda lynda.com/portal/columbia
Khan Academy https://www.khanacademy.org
BrainPop https://www.brainpop.com
Annenberg Learner https://www.learner.org
Instructables instructables.com
Make http://makezine.com
Tinkering: http://tinkering.exploratorium.edu

Social Media
Scheduling http://doodle.com
Collaborative Read-Write Space http://piratepad.net
Collaborative Q&A Forum https://piazza.com
Surveys https://docs.google.com/forms/u/0/
Video-Conversations https://vialogues.com
Chop Youtube Videos tubechop.com
Gifs ezgif.com

Maker-Materials:
Tinkersphere http://tinkersphere.com
Adafruit https://www.adafruit.com
Sparkfun https://www.sparkfun.com
Makershed http://www.makershed.com
McMaster-Carr http://www.mcmaster.com
Open Source Hardware http://seeedstudio.com

Tinkering
http://themakelab.wp.txstate.edu/projects/
http://tinkering.exploratorium.edu
Kid Makers http://www.kidmakers.org
Silvia's Maker Show http://sylviashow.com
MakeHub makehub.eu
Hackidemia hackidemia.com
Afrimakers http://www.afrimakers.org
3D Modeling: tinkercad.com
3D Printing: shapeways.com

Circuitry:
High Low Tech: http://highlowtech.org
Circuit http://chibitronics.com/learn/
Fabtronics http://www.teknikio.com/guidebooks
Fabtronics http://www.kobakant.at/DIY/

Art&Tech Communities in New York
Fat Cat Fab Lab http://www.fatcatfablab.org
Columbia Makerspace http://make.columbia.edu
New York Hall of Science nysci.org
PBS Design Squad pbskids.org/designsquad
LISA Leaders in Software and Art http://www.softwareandart.com
PioneerWorks http://pioneerworks.org
Eyebeam http://eyebeam.org
Makerfaire http://makerfaire.com
Robofun Afterschool Program http://robofun.org
K-12 Fab Labs and Makerspaces https://sites.google.com/site/k12makers/

New Media, Technology & Education:
Media Art: http://www.mediaartnet.org/sitemap/en/

DevArt https://devart.withgoogle.com/
Changing Learning Landscape: http://www.benschersten.com/blog/
Future Classroom Lab: http://fcl.eun.org
Engineering is Elementary eie.org
ArtsEdge artsedge.kennedy-center.org/educators.aspx
Digital Learning and Hybrid Pedagogy http://www.digitalpedagogylab.com
Maker Pedagogy http://makerpedagogy.org/en/

Art & Design:
Fuse STEAM Studio https://osep.northwestern.edu/projects/fuse and https://www.fusestudio.net
National Arts Standards http://www.nationalartsstandards.org

"Selfie", source: Susan Riley, Education Closet, E-Newsletter