Wednesdays: 1:30-4:15pm | **Zoom link:** https://unc.zoom.us/j/2720833877

School of Information and Library Science - UNC Chapel Hill

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COURSE DESCRIPTION

Despite the increasing popularity of makerspaces across the U.S., there still remains little formal preparation or classroom training for emerging information professionals to design and run makerspaces. This course seeks to narrow that gap with a curriculum dedicated to making, makerspaces, and the information professional. In this course, students will critically engage with the conceptualization of the makerspace in a "T-shaped" manner. Vertically, students will develop a deeply practical, critical, and theoretical understanding of the makerspace and its remarkable adoption rate in libraries and communities across the U.S.; horizontally, students will develop a wide-range of technical skills in areas such as fabrication (laser cutting, 3D printing, and sewing), circuitry (paper circuits, electronic textiles, and soldering), reality (XR: AR/VR/MR), and micro-computing. At the end of the course, students will have engaged with a variety of topics including how to staff a makerspace, equity and inclusion, and ways to navigate ethical issues in makerspaces.

PREREQUISITES

No course prerequisites. No technical skills or prior experience required.

LEARNING OBJECTIVES

Students will…

- Develop a theoretical, reflective, and practical understanding of makerspaces and their

evolving role in universities and communities.
- Identify the ethical implications associated with STEM-rich environments such as makerspaces and the technologies therein.
- Articulate the affordances and limitations of the maker movement phenomenon through critical inquiry and analysis.
- Develop skills and familiarity with a range of technologies conventionally found in makerspaces through a series of flash projects.
- Define key terms such as maker, makerspace, maker movement, and develop an understanding of how these terms vary across cultures, communities, and regions.
- Identify ways to devise makerspace environments that are locally situated, dynamic, and founded on values of equity and inclusion.
- Engage in a pro-help, pro-question ethos throughout the course.

TEXTS & COURSE MATERIALS

Texts

Articles will be uploaded in our Sakai webpage under the "Resources" tab. Our course textbook is open-access and is available online:

Sayers, J. (Ed.). (2017). Making things and drawing boundaries : experiments in the digital humanities. Minneapolis: University of Minnesota Press.

Materials

The majority of materials needed for this course have been sent to you via snail mail (i.e. the maker kit). The contents of the maker kit were carefully labeled and organized. Please feel free to look around, but keep all components in their respective bags until we use them in class (this will ensure shared activities run smoothly). Oh, and don't open the envelope! That's for a class activity. The maker kit is comprised of the following projects/items:

- E-textiles
- Paper circuits
- Macrame
- Paper arts
- Dry foam clay and zip-loc bag
- Circuit Playground Express
- Virtual reality
- Paper notepad
- Sticky notes
- Envelope (for class activity)
- Shrinkles
- Augmented reality templates
- Snacks (enjoy!)

However, there are materials and tools that are not included. Below is a list of materials that are **required** for students to purchase and/or borrow for the course:

- Scissors
- X-acto knife

- Glue stick
- Hot glue gun and glue
- Book with thickness of at least 1.5’ (this book will be upcycled for assignment #2)
- Coin-cell battery

If you are unable to purchase the above materials, please let me know and I’ll send you the needed materials. Moreover, here is a reference guide for other materials to create your projects with: ”Making Grid: Cut, Attach, Build.”

MY TEACHING PHILOSOPHY

I encourage students to develop a critical awareness of the available means of information to help make meaning of what it means to be human in this deeply digital and mediated world. Overall, I teach through the integration of project-based assignments that promote holistic (*i.e.* physical, emotional, intellectual, and social) student learning. My pedagogy can be distilled into three principles:

I. The classroom is a historically politicized space — the teacher and student dynamic is fraught with power differentials that can make learning difficult. Critical pedagogues such as bell hooks, John Dewey, and Paulo Freire are integral to my teaching. Like these theorists, I advocate for the holistic, embodied development of students through the disruption of the power dynamics in the classroom. I encouraged students to think critically about our classroom space and how it could be shaped to best meet our needs as a learning community.

II. Making is learning; learning is making. I encourage students to critically think and make with technologies (digital and analog) that afford different ways of asking or responding to questions about the human experience.

III. Student learning continues to evolve through the integration of technology and as information needs change. Technologies should be thoughtfully incorporated into the curriculum and should be critically vetted on an ongoing basis to determine the ethical consequences of their use.

COURSE ASSIGNMENTS & DELIVERABLES

The assignments in this course are experiential, project based, and are a mix of individual and collaborative work.

Due	**Project Overview** (Detailed assignment prompts will be posted on Sakai)	**Course Grade %**
9/2	**Project #1: Maker Auto/Ethnography**: This foundational unit highlights a maker (broadly speaking) and their practice. Specifically, students will	15%

	explore and articulate a formative event that defines the values, beliefs, and perceptions of that maker. Unlike an auto/biography, the auto/ethnography situates the narrative within the social, political, and cultural context of the maker movement.	
10/7	**Project #2: Bibliocircuitry**: This project takes the auto/ethnography from project #1 and transforms it into a multi-modal narrative through the upcycling of a hardcover book into both a print and electronic book. This project highlights the newly developed (or refined) technical skills gained during the first 9 weeks of the semester. Some inspiration.	25%
11/11	**Project #3: Client-based Maker Projects:** The semester will culminate with a team project where students are paired with a makerspace community with a "real" maker-based need. Student teams will help their partner community by offering their technical expertise and their guidance on the end-to-end development of a physical or digital deliverable. Students will meet with their maker community throughout the project to discuss/maintain a completion timeline, to levelset deliverable expectations, and to receive iterative feedback.	25%
Ongoing	**Flash projects:** Throughout the course, students will complete a series of flash projects: a short burst making activity where students learn a skill and produce a small deliverable over the course of a week. The flash projects are comprised of two parts: the deliverable and a ~200-word making reflection (posted in Sakai).	25%
Ongoing	**Participation**: Regular attendance and participation in class activities are critical. Participation also includes the completion of Sakai forum responses, in-class activities, and thoughtful engagement with class discussions.	10%

GRADING

Based on UNC Registrar policy for graduate-level courses:

- H (95-100) "clear excellence" *above and beyond* what is required
- P (80-94) all requirements satisfied at entirely acceptable level (note: this is expected to be the median grade for this course)
- L (70-79) low pass; substandard performance in significant ways
- F (<70) failed; performance that is seriously deficient and unworthy of graduate credit

***Undergraduate grading scale: 95-100 (A), 90-94 (A-), 87-89 (B+), 83-86 (B), 80-82 (B-), 70-79 (C, same +/- ranges as above), 60-69 (D, same +/- ranges as above), <60 (F).

SOCIAL MEDIA, CLASS PHOTOGRAPHY, & RESEARCH

Currently, there are a limited number of LIS courses that focus on makerspaces. As a researcher in this domain, I may document happenings in the class by taking photos (i.e. screenshots) of guest presenters, workshops, and projects. ***I will always ask for permission to take photos and/or to share projects beforehand.***

I also recognize that other folks may want to document their class experience and projects for personal (e.g. to post on social media) and professional (e.g. to include in a professional portfolio) reasons. On the first day of class we'll set some guidelines for how we want to approach photo documentation and sharing as a learning community.

POLICIES & RESOURCES

Honor Code
All students are expected to follow the Honor Code: http://honor.unc.edu/.

Diversity and inclusion
In support of the University's diversity goals and the mission of the School of Information and Library Science, SILS embraces diversity as an ethical and societal value. We broadly define diversity to include race, gender, national origin, ethnicity, religion, social class, age, sexual orientation, and physical and learning ability. As an academic community committed to preparing our graduates to be leaders in an increasingly multicultural and global society we strive to:

- Ensure inclusive leadership, policies, and practices;
- Integrate diversity into the curriculum and research;
- Foster a mutually respectful intellectual environment in which diverse opinions are valued;
- Recruit traditionally underrepresented groups of students, faculty, and staff; and
- Participate in outreach to underserved groups in the State.

The statement represents a commitment of resources to the development and maintenance of an academic environment that is open, representative, reflective, and committed to the concepts of equity and fairness.

Accessibility Resources and Services
The University of North Carolina at Chapel Hill facilitates the implementation of reasonable accommodations, including resources and services for students with disabilities, chronic medical conditions, a temporary disability or pregnancy complications resulting in difficulties with accessing learning opportunities. All accommodations are coordinated through the Accessibility Resources and Service Office. See the ARS Website for contact information: accessibility.unc.edu. Relevant policy documents as they relate to registration and accommodations determinations and the student registration form are available on the ARS website under the About ARS tab. Honor Code All students are expected to follow the Honor Code: http://honor.unc.edu/.

Letters of recommendation
As a professor, I consider it an honor to write letters of recommendation for students. It brings me joy to help support students in this capacity! However, letter writing is especially tricky when I've only known a student for a semester. As such, I have designed the assignments in this course to allow students to demonstrate their leadership, communication, intellectual rigor, and social adeptness. Please take advantage of these assignments with this in mind if you intend to ask me for a letter of support. Moreover, here are other items to note:

- Please allow me a month's lead time to write the letter.
- Please attach your CV/resume, description of the program/opportunity you're applying for, and instructions on the letter submission process.
- Please keep me updated! Despite the outcome of your application, I would love to hear the results and if there are any other ways I could help support you.

Basic needs security
Any student who faces challenges affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in this course is encouraged to contact the Office of the Dean of Students. Furthermore, please notify me if you are comfortable in doing so. This will enable me to provide other resources I may know of. Some helpful links:

- Student Support: Office of the Dean of Students
- Carolina Cupboard: Community Food Pantry (on-campus)
- Groceries for Neighbors in Need

SAFE.UNC.EDU
The main portal for undergraduate and graduate students, faculty, staff, and visitors at UNC-Chapel Hill for resources and information about discrimination, harassment, sexual violence, interpersonal violence, and stalking. It includes information not only about the response and prevention work of EOC, but also of our campus and community partners.

INLS 690: Course Schedule *Schedule is subject to change; all changes will be announced in class and/or via email.* *Readings that aren't hyperlinked below will be uploaded into Sakai.*		
Date:	**Weekly topics & Readings**	**In class**
Week 1: 8/12	**Rise of the Maker Movement** ***Readings:*** "Struggling to Breathe: COVID-19, Protest, and the LIS Response" (Gibson, et al.) "Maker movement" (Make: Community) "Impact of the maker movement" (Deloitte Center for the Edge and Maker Media) *Skills learned:* BeAM Makerspace Orientation	Assignment(s) due: N/A Welcome to INLS 690! ● Course and syllabus overview ● Introductions ● Survey results ● Maker kit overview ● "Making Grid: Cut, Attach, Build" BeAM makerspace orientation Discussion: Situating the Maker Movement: COVID-19 and racial justice.
Week 2: 8/19	**What are makerspaces?** ***Readings:*** "What is a makerspace?" "Making Sense of Makerspaces" (Froschauer, L.) "3-D printing in libraries: policies and best practices" (*American Library Association*) "Dialogic objects in the Age of 3-D printing: The case of the Lincoln life mask" (Garfinkel, S.) From the Creators of Learning in the Making: Live! (Ramos and Le)	Assignment(s) due: Complete BeAM online orientation Go over project #1 - Maker (auto)ethnography & Adobe Creative Cloud *Skills learned:* ● 3D Printing and modeling ***Facilitator(s):* David Romito (BeAM KSL makerspace) (3:15-4:15pm)**

Week 3: 8/26	**Running a makerspace** ***Readings:*** "Critical Race Theory and Makerspaces: A Practical Approach" (Brown) "Makers in the library: case studies of 3D printers and maker spaces in library settings" (Moorefield-Lang, H.) "How to set up and run a makerspace" (Walter, M.) "In a virtual world: how school, academic, and public libraries are testing virtual reality in their communities" (Figueroa, M.) "Pedagogy of productive failure: Navigating the challenges of integrating VR into the classroom" (Melo, M., Bentley, E., McAllister, K., & Cortez, J.)	Assignment(s) due: ● 3D modeling and 3D printing flash project ● 3D printing BeAM orientation module via Sakai *Skills learned*: ● Augmented reality and Virtual Reality
Week 4: 9/2	**Staffing & navigating the politics of different stakeholders** ***Readings:*** "Who Belongs in the Makerspace? Experiences of Women of Color in an Academic Library Makerspace" (Sanchez, et al.) "Unifying Space and Service for Makers, Entrepreneurs, and Digital Scholars" (Nichols, J., Melo, M., & Dewland, J.) "Reproducing the Academy: Librarians and the Question of Service in the Digital Humanities" (Shirazi, R.)	Assignment(s) due: ● Assignment #1 due - Maker (Auto)Ethnography ● Flash project: Virtual Reality and Augmented Reality *Skills learned*: ● Tech: Laser cutting and creating Illustrator files for laser cutting (BeAM Online) ***Facilitator(s):* Winifred Metz, Media Librarian & Head, Media Resources Center (3:15-4:15pm)**

	"Bibliocircuitry and the Design of the Alien Everyday" (Hancock, C. et. al.)	
Week 5: 9/9	**Design Justice** ***Readings:*** *"*Introduction: #TravelingWhileTrans, Design Justice, and Escape from the Matrix of Domination" (Constanza-Chock) Skim "Design Justice Network" Skim *The Field Guide to Human-Centered Design* "Knotty cartographies: Augmenting everyday looking practices of craft and race" (Melo, M.) "Intellectual property in the makerspace" (Radniecki, T.)	Assignment(s) due: ● Flash project: Laser cutter ● BeAM online module: Laser Cutting *Skills learned*: ● Micro-controllers: ○ "Circuit Playground Express" ○ "AdaFruit Circuit Playground Express" ○ "Explore and Learn Circuit Playground"
Week 6: 9/16	**Design Justice** ***Readings****:* "Design Sites: Hackerspaces, FabLabs, Hackathons, and DiscoTechs" (Constanza-Chock) "From Needs Analysis to Power Analysis" (Marshall and Melo) "Art as the practice of freedom: Critical alliances and professional identities within art librarianship" (Meeks) "Virtual harassment: the social experience of 600+ regular virtual reality users" (*The Extended Mind)* "The dilemmas of maker culture" (Tierney, J.)	Assignment(s) due: ● Flash project: Circuit Playground Express ● 3D models and laser cut files due for project #2 *Skills learned*: Paper arts - Origami and pop-up

Week 7: 9/23	**Programming and curriculum integration** ***Readings**:* "Hiring, Training, and Hosting: A Case of Study of an Inclusive Library Makerspace" (Sherrill, J.) "Making maker literacies: integrating academic library makerspaces into the undergraduate curriculum" (Wallace, M. et. al.) View all of the "Project Snapshots" from our textbook	Assignment(s) due: ● Flash project: Paper arts - Origami and pop-up *Mid-semester course evaluation* *Skills learned*: Paper circuits
Week 8: 9/30	**Making Competencies & Impact** ***Readings**:* "Creating Space: The Impacts of Spatial Arrangements in Public Library Makerspaces" (Barniskis, S.) "Competencies for Information Professionals in Learning Labs and Makerspaces" (Koh, K. & Abbas, J.) "Made: technology on affluent leisure time" (Hertz, G.)	Assignment(s) due: ● N/A *Skills learned*: N/A; Prepare for Project #2 "Old Books, New Stories" Digital Showcase
Week 9: 10/7	**Project management & Bibliocircuitry Showcase** ***Readings:*** "The Librarian's Role in Academic Makerspaces" (Rogers, A.) "How do we manage? Project management in libraries: an investigation" (Horwath, J.) "Agile project management in libraries: creating collaborative, resilient, responsive organizations" (Stoddard, M., et. al.)	Assignment(s) due: ● Project #2 due - Please come prepared to display your book for the showcase. Please upload project materials in "Assignments" in Sakai by 12:00pm "Old Books, New Stories" Digital Showcase **Guest speakers: TBD** *Skills learned*: Project management lite

Week 10: 10/14	**Spatial justice & critical making** ***Readings:*** "What is Critical Making?" (Hertz, G.) "All technology is assistive: Six design rules on disability" (Hendren, S.) Excerpt from *The Art of Gathering* (Paker, P.) Excerpt from *Spatial Justice* (Soja, E.) Skim: *Meaningful Making: Projects and Inspiration for Fab Labs and Makerspaces* (Blikstein, P., Martinez, S. & Pang, H.)	Assignment(s) due: N/A Form groups for project #3 - Client Based Maker Projects *Skills learned*: Project management lite
Week 11: 10/21	**Diversity, inclusion, & equity** ***Readings:*** "Making Through the Lens of Culture and Power: Toward Transformative Visions for Educational Equity" (Vossoughi, S. et. al) "Power, access, status: The discourse of race, gender, and class in the maker movement" (Britton, L.) "Diversity by Design: How to Create and Sustain an Inclusive Academic Library Makerspace" (Peery and Chivers) "The Possibilities and Perils of Inclusion in Makerspaces" (Video) (Melo, M.)	Assignment(s) due: N/A *Skills learned*: Shrinky dinks and hot drinks
Week 12: 10/28	**School makerspaces** ***Readings:*** "Makerspaces in the high school	Assignment(s) due: ● Please come prepared to share (~15 minutes) about your maker project, your team's progress, and

	setting" (Moorefield-Lang, H.M., & Coker, M.) "What we learned along the way: Librarian experiences from k-12 and how they aid in university library instruction" (Moorefield-Lang, H.M., & Meier, C) *Let's Make* - The Maker Issue	outstanding tasks/deliverables. ***Facilitator(s):* Dr. Heather Moorefield-Lang (UNC Greensboro, School of Education - Library & Information Science)(3:15-4:15pm)** *Skills learned*: Tech and skills review
Week 13: 11/4	***Maker-based Client Meetings*** ***Readings:*** ● Animal LiveCams ● ChillHop Radio ● Coloring pages	Assignment(s) due: ● Self-care ● 1:1 Project team meetings with Maggie *Skills learned*: N/A
Week 14: 11/11	***Readings**:* N/A ***Client Project Showcase***	Assignment(s) due: ● Please upload project #3 materials in "Assignments" in Sakai by 12:00pm *Skills learned*: ^_^ We're done!
Wishing you a restorative and joyful winter break.		