INLS 690 – FALL 2023

Information Professionals in the Makerspace

Tuesday: 2:00-4:45pm │Room 014 │**Zoom link** (for meetings): https://unc.zoom.us/j/2720833877

School of Information and Library Science - UNC Chapel Hill

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Office hours: By appointment.

Course website: https://uncch.instructure.com/courses/32755

COURSE DESCRIPTION

Despite the increasing popularity of makerspaces across the U.S., there 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

Materials and tools needed for this class will be provided throughout the semester. Additionally, 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 %
9/19	**Project #1: Maker Auto/Ethnography**: This foundational unit highlights a maker (broadly speaking) and their practice. Specifically, students will 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.	15%
10/31	**Project #2: Data Physicalization Artifacts:** This project asks us to consider the ethics and politics of data visualization through critical lenses (i.e. See Hill Collins's "matrix of oppression": race, gender, and class). Students will be putting class discussions and readings into praxis --an engagement of theory, practice, and reflection-- through the thoughtful creation of data physicalization artifacts. These artifacts will be rhetorically persuasive and will be created with a public audience in mind. Students could work individually or in pairs for this assignment.	30%
12/5	**Project #3: Bibliocircuitry Book Nooks:** This project takes the auto/ethnography from project #1 and transforms it into a multi-modal narrative through the creation of a book nook. This project highlights the newly developed (or refined) technical skills gained during the first 9 weeks of the semester. Some inspiration.	20%
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 ~100-word making reflection (posted in Saka Forumsi).	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 (Note: if you're interested in earning an "H" in this course, please let me know. This will require additional projects beyond what's outlined in the syllabus)
- P (80-94) all requirements satisfied at entirely acceptable level
- 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 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

Generative AI: https://provost.unc.edu/student-generative-ai-usage-guidance/

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
- SILS Food Pantry

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: 8/22	**The Maker Movement** *Readings:* N/A	Assignment(s) due: N/A Welcome to INLS 690! • Course and syllabus overview • Introductions • Survey results • Framework for Engagement • BeAM makerspace orientation • "Making Grid: Cut, Attach, Build" Discussion: What is a makerspace? *Skills learned:* N/A
Week 2: 8/29	**What are makerspaces?** *Readings:* Centering Voices from the Margins (Melo and Nichols) "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 in-person orientation Go over project #1 - Maker (auto)ethnography *Skills learned:* • 3D Printing and modeling *Facilitator(s):* **Jordan Green from BeAM KSL Makerspace**

Week 3: 9/5	**NO CLASS – WELLBEING DAY**	
Week 4: 9/12	**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 printing BeAM in-person training *Skills learned*: ● Augmented reality and Virtual Reality Adobe Creative Cloud

Week 5: 9/19	**Data Science**
	
	Readings:
	● *Data Feminism* (D'Ignazio and Klein); Please carefully read chapters 3, 4, 6, and 7.
		Assignment(s) due:
		● Project #1 due - Maker (Auto)Ethnography
		● Transition to Project #2 –Data Physicalization Artifacts
		● Flash projects:
		   ○ Virtual Reality and Augmented Reality (Sakai Forum)
		   ○ Use Metaverse AR
		   ○ 3D modeling and 3D printing flash project (Sakai Forum)
		
		Skills learned:
		● Tech: Laser cutting and creating Illustrator files for laser cutting (BeAM Online)
		● ***Facilitator(s):* Joel Hopler from BeAM Murray Makerspace**

Week 6: 9/26	NO CLASS	

Week 7: 10/3	**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 (Sakai Forum)
		● BeAM in-person training: Laser Cutting
		
		Skills learned:
		● Soldering
		● Micro-controllers:
		    ○ "Circuit Playground Express"
		    ○ "AdaFruit Circuit Playground Express"
		    ○ "Explore and Learn Circuit Playground"
		
		Facilitator(s): **Jordan Green from BeAM KSL Makerspace**

Week 8: 10/10	**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 ● Preliminary research outline (Sakai Assignments) *Skills learned*: Paper arts I - *Cricut*

Week 9: 10/17	**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: N/A *Mid-semester course evaluation* *Skills learned*: Paper arts II: circuits and paper automata
Week 10: 10/24	**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: ● Paper Arts (Sakai Forum) Peer review for Project #2 – Data Physicalization Artifacts *Skills learned*: N/A

Week 11: 10/31	**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: ● Project #2 due - Please come prepared to display your artifacts. Please upload project materials in "Assignments" in Sakai by 12:00pm Data Physicalization Showcase *Skills learned*: Communication via presentation of projects
Week 12: 11/7	**Spatial justice & critical making** ***Readings:*** Bibliocircuitry and the Design of the Alien Everyday (Hancock, et. al) "What is Critical Making?" (Hertz, G.) "All technology is assistive: Six design rules on disability" (Hendren, S.) Chapter 1: *The Art of Gathering* (Paker, P.)	Assignment(s) due: N/A Transition to Project #3: Bibliocircuitry Book Nooks *Skills learned*: Applications of critical making
Week 13: 11/14	**Diversity, inclusion, & equity** ***Readings:*** "Making Through the Lens of Culture and Power: Toward Transformative Visions for Educational Equity" (Vossoughi, S. et. al)	Assignment(s) due: Continue working on Project #3 *Skills learned*: Tech and skills review

	"Diversity by Design: How to Create and Sustain an Inclusive Academic Library Makerspace" (Peery and Chivers) "Space Invaders: First-time Users Feel Like Trespassers in the Makerspace" (Melo)	
Week 14: 11/21	**1:1 Meetings with Maggie**	
Week 15: 11/28	**School makerspaces** *Readings:* "Makerspaces in the high school 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) Factors Influencing Intention to Introduce Accessibility in Makerspace Planning and Implementation (Moorefield-Lang, H.M., & Dubjakovic, A.)	Assignment(s) due: Continue working on Project #3 Open lab and peer review for Project #3 *Skills learned*: N/A
Week 16: 12/5	*Readings*: N/A	Assignment(s) due: ● Please come prepared to display and to present on your project. Upload project #3 materials in "Assignments" in Sakai by 12:00pm *Project #3- Book Nook Showcase* *Skills learned*: ^_^ We're done!
Wishing you a restorative and joyful winter break.		