



**Wednesdays:** 1:25-3:55pm | **Room:** Manning Hall 208  
*School of Information and Library Science - UNC Chapel Hill*

**Instructor:** Maggie Melo, Ph.D. (she/her/hers)

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**Office:** 214A, Manning Hall

**Office hours:** By appointment.

**Course website:** <https://sakai.unc.edu>

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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 burgeoning 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.

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### PREREQUISITES

No course prerequisites. No technical skills or experience required.

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## LEARNING OBJECTIVES

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*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.

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## TEXTS & COURSE MATERIALS

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### 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

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## MY TEACHING PHILOSOPHY

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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.

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### COURSE ASSIGNMENTS & DELIVERABLES

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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 %
9/18	<b>Project #1: Maker Auto/Ethnography:</b> 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%
10/16	<b>Project #2: Bibliocircuitry:</b> This project takes the auto/ethnography from project #1 and transforms it into a multi-modal narrative through the <a href="#">upcycling</a> 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 <a href="#">inspiration</a> .	25%
12/6	<b>Project #3: Client-based Maker Projects:</b> 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	<b>Flash projects:</b> 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	<b>Participation:</b> Regular attendance and participation in class activities	10%

	are critical. Participation also includes the completion of Sakai forum responses, in-class activities, and thoughtful engagement with class discussions.	
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## GRADING

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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).

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## SOCIAL MEDIA, CLASS PHOTOGRAPHY, & RESEARCH

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Currently there is 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.

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## POLICIES & RESOURCES

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### 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](http://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 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.

<b>INLS 690: Course Schedule</b>			
<i>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.</i>			
<b>Date:</b>	<b>Topics:</b>	<b>Location(s):</b>	<b>Assignment(s) due:</b>
8/21	<p>The maker movement</p> <p><i>Readings:</i>  <a href="#">"Maker movement"</a> (Make: Community)</p> <p><a href="#">"Impact of the maker movement"</a>            (Deloitte Center for the Edge and Maker Media)</p> <p><i>Skills learned:</i> BeAM Makerspace Orientation</p>	<p>1st half: Phillips Hall 301            2nd half: <a href="#">Murray Hall - BeAM Makerspace</a></p>	INLS 690 Student Survey
8/28	<p>Environmental scan of makerspaces</p> <p><i>Readings:</i>  <a href="#">"What is a makerspace?"</a></p> <p><a href="#">"Making Sense of Makerspaces"</a>            (Froschauer, L.)</p> <p><a href="#">"Virtual reality"</a> (Wikipedia)</p> <p><a href="#">"In a virtual world: how school, academic, and public libraries are testing virtual reality in their communities"</a> (Figuroa, M.)</p> <p><a href="#">"Pedagogy of productive failure: Navigating the challenges of integrating VR into the classroom"</a> (Melo, M., Bentley, E., McAllister, K., &amp; Cortez, J.)</p> <p><i>Skills learned:</i> Virtual reality and mixed reality</p>	<p>1st half: Manning Hall 208            2nd half: <a href="#">Kenan Science Library - BeAM Makerspace</a></p>	N/A

	<p><i>Facilitator(s)</i>: David Romito (BeAM KSL makerspace) and Lynn Eades (UNC Chapel Hill Health Sciences Library)</p>		
9/4	<p>Running a makerspace</p> <p><i>Readings</i>:  <a href="#">“Makers in the library: case studies of 3D printers and maker spaces in library settings”</a>  (Moorefield-Lang, H.)</p> <p><a href="#">“How to set up and run a makerspace”</a>  (Walter, M.)</p> <p><a href="#">“Create Efficient, Platform-neutral, Web-Based Augmented Reality Content in the Library”</a> (Lou, D.)</p> <p><i>Skills learned</i>: <a href="#">Augmented reality</a> and <a href="#">360-degree photography</a></p> <p>Guest speakers: Jennifer Nichols and Anthony Sanchez (University of Arizona Libraries)</p>	Manning Hall 208	
9/11	<p>Staffing &amp; navigating the politics of different stakeholders</p> <p><i>Readings</i>:  <a href="#">“Bibliocircuitry and the Design of the Alien Everyday”</a> (Hancock, C. et. al.)</p> <p><a href="#">“Unifying Space and Service for Makers, Entrepreneurs, and Digital Scholars”</a>  (Nichols, J., Melo, M., &amp; Dewland, J.)</p> <p><a href="#">“Reproducing the Academy: Librarians and the Question of Service in the Digital Humanities”</a> (Shirazi, R.)</p> <p><i>Skills learned</i>: Creating Illustrator files for lasercutting</p> <p><i>Facilitator(s)</i>: Meg McMahon</p>	Manning Hall 208	Flash project: AR

<p>9/18</p>	<p>Ethics</p> <p><i>Readings:</i>  <a href="#">“Intellectual property in the makerspace”</a>  (Radniecki, T.)</p> <p><a href="#">“Virtual harassment: the social experience of 600+ regular virtual reality users”</a> (<i>The Extended Mind</i>)</p> <p>Skim <i>The Field Guide to Human-Centered Design</i></p> <p><i>Skills learned:</i> Design thinking strategies</p> <p><i>Facilitator(s):</i> TBD</p>	<p>Manning Hall 208</p>	<p>Flash project: Paper Automata</p> <p>Project #1 - please upload in “Assignments” in Sakai by 12:00pm</p>
<p>9/25</p>	<p>Ethics</p> <p><i>Readings:</i>  <a href="#">“The dilemmas of maker culture”</a>  (Tierney, J.)</p> <p><a href="#">“3-D printing in libraries: policies and best practices”</a> (<i>American Library Association</i>)</p> <p><a href="#">“Dialogic objects in the Age of 3-D printing: The case of the Lincoln life mask”</a>  (Garfinkel, S.)</p> <p><i>Skills learned:</i> 3D modeling and printing</p> <p><i>Facilitator(s):</i> BeAM staff and David Romito</p>	<p>1st half: <a href="#">Murray Hall - BeAM Makerspace</a>  2nd half: <a href="#">Kenan Science Library - BeAM Makerspace</a></p>	<p>Flash project: Illustrator and lasercutter</p>
<p>10/2</p>	<p>Programming and curriculum integration</p> <p><i>Readings:</i>  <a href="#">“AdaFruit Circuit Playground Express”</a></p> <p><a href="#">“Explore and Learn Circuit Playground”</a></p> <p><a href="#">“Making maker literacies: integrating academic library makerspaces into the undergraduate curriculum”</a> (Wallace, M.)</p>	<p>Manning Hall 208</p>	<p>Flash project: 3D modeling and printing</p>

	<p>et. al.)</p> <p><a href="#">“Teaching technical writing through designing and running escape rooms”</a> (Melo, M. &amp; Johnson, A.)</p> <p>View all of the “Project Snapshots” from our textbook</p> <p><i>Skills learned:</i> Microcontrollers and microcomputers</p> <p><i>Facilitator(s):</i> Amy Jiang (University of La Verne Libraries)</p>		
10/9	<p>Generous exclusion &amp; the superuser // Mid-semester evaluation</p> <p><i>Readings:</i> Excerpt from <i>The Art of Gathering</i> (Paker, P.)</p> <p>Excerpt from <i>The Field Guide to Human-Centered Design</i></p> <p><a href="#">“Made: technology on affluent leisure time”</a> (Hertz, G.)</p> <p><i>Skills learned:</i> Circuits and soldering</p> <p><i>Facilitator(s):</i> David Romito</p>	<p>1st half: Manning Hall 208 2nd half: <a href="#">Kenan Science Library - BeAM Makerspace</a></p>	<p>Flash project: Microcontroller - Circuit Playground Express</p>
10/16	<p>Project management *Bibliocircuitry Showcase*</p> <p><i>Readings:</i> “The Librarian’s Role in Academic Makerspaces” (Rogers, A.)</p> <p><a href="#">“How do we manage? Project management in libraries: an investigation”</a> (Horwath, J.)</p> <p><a href="#">“Agile project management in libraries: creating collaborative, resilient,</a></p>	<p>1st half: Manning Hall 208 2nd half: SILS Library</p>	<p>Project #2 - please come prepared to display your book for the showcase. Please upload project materials in “Assignments” in Sakai by 12:00pm</p>

	<p><a href="#">responsive organization</a>s” (Stoddard, M., et. al.)</p> <p><i>Skills learned:</i> Project management platforms and approaches</p> <p>Guest speakers: Kenny Langley (UNC BeAM) and Adam Rogers (NCSU D.H. Hill Library Makerspace)</p>		
10/23	<p>The reference interview in the makerspace</p> <p><i>Readings:</i>  <a href="#">Guidelines of the Successful Reference Interview from American Library Association</a></p> <p>Setting the Stage for the Reference Interview (Ross, S. &amp; Radford, M.)</p> <p>Skim: <a href="#">Meaningful Making: Projects and Inspiration for Fab Labs and Makerspaces</a> (Blikstein, P., Martinez, S. &amp; Pang, H.)</p> <p><i>Skills learned:</i> 3D scanning</p> <p><i>Facilitator(s):</i> David Romito</p>	<p>1st half: Manning Hall 208</p> <p>2nd half: <a href="#">Kenan Science Library - BeAM Makerspace</a></p>	N/A
10/30	<p>Diversity, inclusion, &amp; equity</p> <p><i>Readings:</i>  “Critical race theory and makerspaces: A practical approach” (Brown, J.)</p> <p>“<a href="#">Power, access, status: The discourse of race, gender, and class in the maker movement</a>” (Britton, L.)</p> <p>“<a href="#">The Possibilities and Perils of Inclusion in Makerspaces</a>” (Video) (Melo, M.)</p> <p>“<a href="#">Knotty cartographies: Augmenting everyday looking practices of craft and race</a>” (Melo, M.)</p>	<p><a href="#">Murray Hall - BeAM Makerspace</a></p>	Flash project: 3D scanning

	<i>Skills learned:</i> Sewing and e-textiles		
11/6	<p>School makerspaces</p> <p><i>Readings:</i>  “Makerspaces in the high school setting”  (Moorefield-Lang, H.M., &amp; Coker, M.)</p> <p>“What we learned along the way:  Librarian experiences from k-12 and how  they aid in university library instruction”  (Moorefield-Lang, H.M., &amp; Meier, C)</p> <p><a href="#">Let’s Make - The Maker Issue</a></p> <p><i>Skills learned:</i> Tech and skills review</p> <p><i>Facilitator(s):</i> Dr. Heather  Moorefield-Lang (UNC Greensboro,  School of Education - Library &amp;  Information Science)</p>	Manning Hall 208	Flash project: Sewing
11/13	<p>Spatial justice &amp; critical making</p> <p><i>Readings:</i>  <a href="#">“All technology is assistive: Six design  rules on disability”</a> (Hendren, S.)</p> <p>Excerpt from <i>Making is Connecting</i>  (Gauntlett, D.)</p> <p>Excerpt from <i>Spatial Justice</i> (Soja, E.)</p> <p>“<a href="#">Thinking as handwork: critical making  with humanistic concerns</a>” (Resch, G. et.  al.)</p> <p><i>Skills learned:</i> Class choice</p> <p><i>Facilitator(s):</i> TBD</p>	Manning Hall 208	Flash project: TBD
11/20	Project team meetings, 1:1 with Maggie, and peer review/informal presentations	Manning Hall 208	Please come prepared to share (~15 minutes) about your maker

	<i>Readings:</i> N/A <i>Skills learned:</i> N/A <i>Facilitator(s):</i> N/A		project, your team's progress, and outstanding tasks/deliverables.
11/27	<b>Fall Recess</b>		
12/4	Client project showcase	TBD	Project #3 - Please upload project materials in "Assignments" in Sakai by 12:00pm