

GRA 1831c Design Technology

Class Periods: T or R 8:30 am - 11:30am

Location: FAC 310

Academic Term: Spring 2025

Instructor

Narayan Ghiotti

Office hours: MW 10 am - 2 pm online/Infinity Hall.

Contact: narayan@ufl.edu (Canvas or Outlook mail)

Course Descriptions

The course introduces design technology by encouraging students to observe, interact, and create design tools in many social contexts of design and use. Design tools include **high-technology** as industrial advancements like digital applications and Artificial Intelligence as well as **low-technology** as physical, non-obscured, highly interactive, and locally sourced materials such as cardboard, paper, legos, board games, and paper (check out [Repurpose Project](#)). In between these technologies are **hybrid-technology** that designers can explore, experiment, and learn the complexity of technology through accessible toolkits such as [Makey Makey](#). This course is to understand design technology from low-tech (tentative course schedule, phase 1), hybrid-tech (phase 2), and high-tech (phase 3) from reading articles, observing and documenting design tools in designers' everyday lives, as well as creating design toolkits that embody the designers' collective worldviews. Designers also reflect on their roles as users.

This way, students expand their understanding of design tools beyond the globally industrialized design world that mainly emphasizes aesthetic, functional, and monetizable designs while otherizing the design abilities of non-industrial designers or users. Critical consciousness and serious play of design tools also fosters paying respects and co-living with local communities in local spaces.

Course Pre-Requisites / Co-Requisites

Graphic Design major (BFAG)

Course Objectives

- To delimit the common understanding of design technology to applications in industrial contexts such as Adobe Suites, Canva, Slack, Miro, or Mentimeter. Although these digital technologies are common and convenient in the modern design profession, the course aims to derive from these tools as students would learn more effectively in industrial practices instead.
- To investigate in the design possibilities of low-tech and hybrid-tech through observing, interacting, and gathering design objects in local social spaces. Thus, make design decisions from such materials to create design toolkits for themselves and their communities.

- To be critical of design possibilities and consequences of high-tech in the modern industrial lives, where graphic designers commonly interact with as regular users instead of engaging, reflexive designer (Mørch, 2011).
- To be familiar with design research skills, which include reading articles as well as collecting and annotating data about design tools.
- To shift design approaches away from mastering technical skills in high-tech; rather, in and beyond design studios, designers can become more (chaotically) experimental engaging, collaborative, and critical with low-, hybrid-and high-tech.

Required Textbooks & Materials

- Readings are assigned in the syllabus and should be read for a class discussion. When students do not read the assigned articles, they can read and annotate the readings in visual journals for substitute submissions.
- A notebook is required as a visual journal for documenting student's observations and interactions with design technologies. Students may use low-tech materials and devices in the design studio to support the journal process. Thus, the notebook is preferable without lines, grids, or complex details; around half or a third of the letter size is 8.5 x 11 in.
- The [Makey Makey toolkits](#) will be provided for design experiments.
- Other materials may be required or provided per TBD design activities in class.

Attendance Policy

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies. [Click here to read the university attendance policies.](#)

Evaluation of Grades

Grades are calculated using a point system. Each assignment has a point value, and point values for all assignments added up to 100. A letter grade is assigned according to the grading scale below.

More information on UF grading policy may be found in: [UF Graduate Catalog, Grades and Grading Policies](#)

Grading Scale

A 94-100 points, A- 90-93, B+ 87-89, B 84-86, B- 80-83,
C+ 77-79, C 74-76, C- 70-73, D+ 67-69, D 64-66, D- 61-63, E below 61

Students Requiring Accommodations

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. [Click here to get started with](#)

the Disability Resource Center. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback professionally and respectfully is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

University Honesty Policy

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code specifies a number of behaviors that violate this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Student Privacy

There are federal laws protecting your privacy with regard to grades earned in courses and on individual assignments. For more information, please see the [Notification to Students of FERPA Rights](#).

COVID Issues

In response to COVID-19, the following recommendations are in place to maintain your learning environment, enhance the safety of our in-classroom interactions, and further the health and safety of ourselves, our neighbors, and our loved ones.

- If you are not vaccinated, get vaccinated. Vaccines are readily available and have been demonstrated to be safe and effective against the COVID-19 virus. Visit ONE.UF for screening/testing and vaccination opportunities.
- If you are sick, stay home. Please call your primary care provider if you are ill and need immediate care or the UF Student Health Care Center at 352-392-1161 to be evaluated.
- Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work.

In-Class Recording

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Policy on Course Syllabi 3 UF, Academic Affairs, August 5th, 2021 Honor Code and Student Conduct Code.

Health and Wellness

U Matter, We Care: If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

Counseling and Wellness Center: counseling.ufl.edu/cwc, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS) Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or police.ufl.edu.

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or [visit the Student Health Care Center website](#).

UF Health Shands Emergency Room / Trauma Center:

For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; [Visit the UF Health Emergency Room and Trauma Center website](#).

GatorWell Health Promotion Services: For prevention services focused on optimal well-being, including Wellness Coaching for Academic Success, [visit the GatorWell website](#) or call 352-273-4450.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling.

Library Support, Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.

Student Complaints Campus

On-Line Students Complaint

GRA 1831c Design Technology

Tentative Course Schedule

Phase 1: Observe, use, and define

What are design tools? How to understand and interact with design tools as designers?

Week 1 (Jan 13 / 15): Syllabus and initial discussions

Async. assignment: Photo submission of the visual journal due Sunday 11:59 pm.

Week 2 (Jan 20 / 22):

Dalsgaard, P. (2017). Instruments of Inquiry: Understanding the Nature and Role of Design Tools. International journal of design, 11(1), 21-33.

https://pure.au.dk/ws/portalfiles/portal/170214976/Instruments_of_inquiry.pdf

Async. assignment: Photo submission of the visual journal due Sunday 11:59 pm.

Week 3 (Jan 27 / 29):

Ewenstein, B., & Whyte, J. (2009). Knowledge practices in design: the role of visual representations as 'epistemic objects'. *Organization Studies*, 30(1), 07-30.
<https://doi.org/10.1177/0170840608083014>

Async. assignment: Photo submission of the visual journal due Sunday 11:59 pm.

Week 4 (Feb 3 / 5):

Richter, C., & Allert, H. (2011). The epistemic role of artefacts in creative design and knowledge creation. In *DS 69: Proceedings of E&PDE 2011, the 13th International Conference on Engineering and Product Design Education*, London, UK, 08.-09.09. 2011.
https://www.designsociety.org/download-publication/30868/the_epistemic_role_of_artefacts_in_creative_design_and_knowledge_creation

Async. assignment: Photo submission of the visual journal due Sunday 11:59 pm.

Week 5 (Feb 10 / 12): A design technology fair 1.0

No readings; visual presentation on design technologies based on visual journals and everyday objects.

Async. assignment: Photo submission of the visual journal due Sun/Tue 11:59 pm.

Phase 2: Collaborate and create
How to create design tools from the design objects of the designers' worlds? What are the futures of designers in interaction with design tools?

Week 6 (Feb 17 / 19):

Gentes, A., Valentin, F., & Brulé, E. (2015, November). Mood boards as a tool for the "in-discipline" of design. In IASDR Interplay 2015.

https://hal.science/hal-01238257/file/IASDR2015_Gentes_Valentin_Brulé.pdf

Async. assignment: Gather design objects in local space, interact, and analyze them through photos, videos, or annotations in the journal; Updates due Sun/Tue 11:59 pm

Week 7 (Feb 24 / 26):

Mørch, A. I. (2011). Evolutionary application development: Tools to make tools and boundary crossing. Reframing humans in information systems development, 151-171.

https://link.springer.com/chapter/10.1007/978-1-84996-347-3_9

Async. assignment: A proposal of design toolkit - group submission, due Sun/Tue 11:59 pm

Week 8 (Mar 3 / 5):

Filip, Diane & Lindegaard, Hanne. (2018). Filip & Lindegaard (2016) Designing the Object Game.

https://www.researchgate.net/publication/324865935_Filip_Lindegaard_2016_Designing_the_Object_Game

Async. assignment: Photo submission of the visual journal due Sun/Tue 11:59 pm.

Week 9 (Mar 10 / 12):

Vaajakallio, K., & Mattelmäki, T. (2007, August). Collaborative design exploration: envisioning future practices with make tools. In Proceedings of the 2007 conference on Designing pleasurable products and interfaces (pp. 223-238). <https://doi.org/10.1145/1314161.1314182>

Async. assignment: Progress update on design toolkit - group submission, due Sun/Tue 11:59 pm

Week 10 (Mar 17 / 19): *Spring break. No class.*

Week 11 (Mar 24 / 26): A design technology fair 2.0

No readings / Group performances of design technologies from Makey Makey toolkits and gathered design objects

Async. assignment: Paper draft 1 due Sun/Tue 11:59 pm

Phase 2: Locate

Designers are also users. What can we learn from design tools in the industrial and social contexts?

Week 12 (Mar 31 / Apr 2):

Knuth, D. (1985). Lessons learned from Metafont. *Visible Language*, 19(1), 35.

<https://www.proquest.com/openview/2c3ed8f541bf7abc749e6deaf3ace507/1?pq-origsite=gscholar&cbl=1821103>

Async. assignment: Photo submission of the visual journal due Sun/Tue 11:59 pm.

Week 13 (Apr 7 / 9):

Verganti, R., Vendraminelli, L., & Iansiti, M. (2020). Innovation and design in the age of artificial intelligence. *Journal of product innovation management*, 37(3), 212-227.

<https://onlinelibrary.wiley.com/doi/pdfdirect/10.1111/jpim.12523>

Felzmann, H., Fosch-Villaronga, E., Lutz, C., & Tamò-Larrieux, A. (2020). Towards transparency by design for artificial intelligence. *Science and engineering ethics*, 26(6), 3333-3361. <https://doi.org/10.1007/s11948-020-00276-4>

Async. assignment: Photo submission of the visual journal due Sun/Tue 11:59 pm.

Week 14 (Apr 14 / 16):

Paramita, K. D., & Yatmo, Y. A. Thinking Low-Tech: Promoting Local Practices in Design Studio.

https://www.researchgate.net/profile/Kristanti-Paramita/publication/377104252_Thinking_Low-Tech_Promoting_Local_Practices_in_Design_Studio/links/65b04e576c7ad06ab42615aa/Thinking-Low-Tech-Promoting-Local-Practices-in-Design-Studio.pdf

Loh, P., Marshall, C., & Meadows, C. J. (1998). High-tech/low-tech: Appropriate technologies for developing nations. *Journal of Global Information Management (JGIM)*, 6(2), 5-13.

https://web.archive.org/web/20180108012455id_/http://www.irma-international.org:80/view/title/51307/

Async. assignment: Photo submission of the visual journal due Sun/Tue 11:59 pm.

Week 15 (Apr 21 / 23): A design technology fair 3.0

No readings / Screening of group movies about design technology.

Week 16 (May 1): *Final exam week. No class.*

Async. assignment: Paper final draft due Sun/Tue 11:59 pm