Programming Design

Spring 2020, F10 ART 338Y
Tuesday & Thursday from 8:30am–11:20am
Bixby 110 (The Kranzberg Illustrated Book Studio)
Ben Kiel, ben@typefounding.com.
Office location: Steinberg 003
Office hours by appointment only (via email)

Email is responded to within a day (24 hours) of sending. Reply time is slower on weekends than during the week. Email or Slack are the preferred contact methods for questions outside of class.

Course Description

This is a class about asking questions, designing processes, building systems, input & output, and combining them together. It is fundamentally experimental in nature.

We are going to explore the unconscious ways your design tools influence your work and what your work would look like if you made the tools used to create it.

Our toolset will be learning and writing code in Python to generate design, experiencing different output techniques in the book studio, and building our own input devices. We will treat the computer as a raw material, not as a polished product. The course assumes no prior programming experience, so don’t worry if you have never written a line of code.

We will have in-class demos, solo and group projects, readings, and talks from practitioners in the field. We’ll be using the free DrawBot application for MacOS and the PageBot code library.

Along the way we’ll explore questions such as:

• What will design look like when machine learning automates many design tasks?
• How will you adapt when your software changes?
• What does design look like when you are designing systems to create outcomes instead of designing the outcome?
• How do you design for different contexts at the same time using the same content?
• What would computer-aided design iteration look like?

Rules (apologies to Corita Kent)

1. Ask all you can of your professor and your fellow students; we are here to help and support eachother.
2. The only rule is making; through making you will arrive at understanding.
3. It is ok to feel lost; everyone feels lost in the unfamiliar, being comfortable in the uncomfortable leads to surprising results.
4. Nothing is a mistake. Save everything.
5. Enjoy yourself when you can, bring humor and lightness to the work.
6. Making and editing are different things. Don’t do them at the same time.
7. “We’re breaking all of the rules. Even our own rules. And how do we do that? By leaving plenty of room for X quantities.” —John Cage

Disclaimer

Note: This is a new course, as the semester progresses changes to the structure, projects, schedule, etc. may occur. The instructor reserves the right to make modifications to the information on this syllabus throughout the semester.

Goals

Students will learn how to think systematically about design, how to work in teams, rapid iteration using the computer, sketching, the design of software applications, how to translate digital experiences to analogue and vice versa, and how to learn from failure.

Beyond content-specific goals, this course will develop your ability to objectively evaluate your work, teach you to work iteratively, and deepen your formal and critical vocabulary.

Students who complete this course successfully will be able to:

• Conceptualize and program design tools
• Explicate their working methods and habits
• Incorporate iterative working methods into their practice
• Apply systems thinking to design tasks
• Translate digital experiences into analogue contexts and vice versa

Assignments

Pattern
Create a pattern generator which can generate a pattern at any scale or size requested.

Control
Using your miniKbd, create an input method for a design tool.

Helper
Design a simple helper tool for your design process.

Generated Zine
Design a collaborative print-on-demand zine that is generated anew for each copy of the zine.

Owned
Final project for the course. Working alone or in a group, design and produce a project based on your new set of skills and tools.

Required Materials

The course requires a MacOS computer (there are loaner computers if needed) and a copy of the free Drawbot application. A text editor is is also handy, there are many free options available.

You will also need a free GitHub account. Your work will be documented and stored there for the course and collaboration will also happen here.

There will be a class Slack for sharing of resources and help.

Readings

Readings will be given out during the semester, via PDF on Canvas. However, here is a list of books that have been helpful in the preparation of class, some of which are available from the library. These are not required reading, but you may find them enlightening for the material presented in class.

• Benedikt Groß, Hartmut Bohnacker, Julia Laub, and Claudius Lazzeroni, Generative Design: Visualize, Program, and Create with Javascript in p5.js, 2018, Princeton Architectural Press
• Carl Losstritto, Computational Drawing: From foundational exercises to theories of representation, 2019, Applied Research and Design Publishing
• John Maeda, How to Speak Machine: Computational Thinking for the Rest of Us, 2019, Penguin Group Portfolio
• Norman Potter, What is a designer: things, places, messages, 2008, Hyphen Press
• François Rappo and Jürg Lehni, Typeface as Program, 2009, ÉCAL
• David Reinfurt, A New Program for Graphic Design, 2019, Inventory Press
• David Reinfurt and Robert Wiesenberger, Muriel Cooper, 2017, MIT Press
Course schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Tuesday</th>
<th>Thursday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Course introduction</td>
<td>Intro to Tools</td>
</tr>
<tr>
<td>January 14 &amp; 16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 2</td>
<td>Intro to Tools</td>
<td>No Class</td>
</tr>
<tr>
<td>January 21 &amp; 23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 3</td>
<td>Pattern</td>
<td>Pattern</td>
</tr>
<tr>
<td>January 28 &amp; 30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 4</td>
<td>Pattern—Final</td>
<td>Helper</td>
</tr>
<tr>
<td>February 4 &amp; 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 5</td>
<td>Helper—Final</td>
<td>Generated zine</td>
</tr>
<tr>
<td>February 11 &amp; 13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 6</td>
<td>Generated zine</td>
<td>Press workshop</td>
</tr>
<tr>
<td>February 18 &amp; 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 7</td>
<td>Generated zine—Final</td>
<td></td>
</tr>
<tr>
<td>February 25 &amp; 27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 8</td>
<td>Control</td>
<td>Control</td>
</tr>
<tr>
<td>March 3 &amp; 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 9</td>
<td>Spring Break, No Class</td>
<td></td>
</tr>
<tr>
<td>March 10 &amp; 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 10</td>
<td>Control</td>
<td>Control—Final</td>
</tr>
<tr>
<td>March 17 &amp; 19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 11</td>
<td>Owned</td>
<td>Owned</td>
</tr>
<tr>
<td>March 24 &amp; 26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 12</td>
<td>Owned</td>
<td>Owned</td>
</tr>
<tr>
<td>March 31 &amp; April 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 13</td>
<td>Owned</td>
<td>Owned</td>
</tr>
<tr>
<td>April 7 &amp; 9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 14</td>
<td>Owned</td>
<td>Owned</td>
</tr>
<tr>
<td>April 14 &amp; 16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 15</td>
<td>Owned</td>
<td>Final review</td>
</tr>
<tr>
<td>April 21 &amp; 23</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Course fees
The course fee ($40) provides for general shop materials (inks, rags, disposal, etc) and the following provided materials:

- A miniKbd kit
- Paper for printing in the book studio
- Print on demand book

Depending on scope of your projects, you may need to purchase additional paper and/or printmaking supplies.

Daily Work/Homework
Students are expected to do work outside of class to complete assignments and do readings. More outside time will be required for the later assignments in the course. There will be no more than one reading every two weeks. Some outside work will require the use of the book studio during monitor hours; please plan accordingly.

Class Participation
Work time in the studio is critical to the successful completion of the class. Students are expected to be ready to participate and be fully engaged in the day’s coursework during the entire scheduled class period. Meaning, you are ready to provide critique, participate in formal and informal class discussion, and to discuss your work with peers.

Course Grading
Grades for this course are based on a combination of self evaluation and per project grades. You will regularly self evaluate three areas of your practice: Process, Output, and Approach.

Per project grades are determined first and foremost on the process of each project. Success is measured by the following criteria: breadth of investigation, strength of concept, communication value, aesthetic quality, thoroughness of completion & finish.

Course grades are not curved, but will be issued on a plus/minus scale. Work handed in after a critique will result in a lowered grade.

Explanation of Grading System
- **Self Evaluation**: 50 points (66%)
- **Pattern**: 5 points (7%)
- **Control**: 5 points (7%)
- **Helper**: 5 points (7%)
- **Generated Zine**: 5 points (7%)
- **Owned**: 5 points (7%)

Self Evaluation
The majority of your course grade (66%) is based upon your self evaluations. You are in school to improve and better yourself as a designer, not to spend time trying to figure out what your instructor will give an “A” for. Self evaluation is a method for you to be honest about your work, engage in what you find best serves the project and your interests, and build a skill that has life-long value.

Criteria
You’ll be evaluating three parts of your activity in class:

1. **Process (50% of total score)**
   - The most important part of this course and your education: your making, thinking, and your choices in the course of working. What risks do you take, how widely do you explore, how far do you push your work while making?

2. **Output (25% of total score)**
   - The work turned in. These are final projects and the work due for classes. Evaluation of your output involves evaluation of the work’s aesthetic value, communicative ability, impact, and craft.

3. **Approach (25% of total score)**
   - How is your attendance, preparation, participation in discussion, and general demeanor in class?

Method
In each area, you’ll be giving yourself a score from 1 to 10. These scores will be combined according to the percentages above and your total score (between 1 and 10) will be recorded. These evaluations will happen roughly every three weeks and will not be tied to a specific project. You will base your score on what you did during that block of time, not on a specific project. Unless I strongly disagree with your evaluation, this is the score you will receive for that block. Your evaluations are private and will not be shared or discussed with anyone other than you.

Course-Specific Support
The book studio is open daily for monitor hours. Please refer to the posted schedule for open times. Additionally, Tom Moore serves as our CDES Technologist. He can be contacted through Canvas or by email, tcmoore@wustl.edu. He can help with software, computer, and printing issues.

---

1 This is not an original idea for grading. It is taken from Mitch Goldstein. See his formulation and twitter thread about it.
Course Policies and Information for Students

Attendance Policy
Attendance is mandatory and will be documented for all course meetings. Conflict or tragedy should not be an excuse for missing class unless they are documented and approved in advance by the instructor. If you are absent without documentation, your professor(s) will consult the Office of the Dean of Students to determine whether you are excused or not.

Penalties For Late Work And Requests For Extensions
Late work will incur a 20% penalty for each subsequent late submission. Requests for extensions of up to two class periods may be made in advance of the project due date. Students may request additional extensions of up to two class periods in advance of the project deadline. Extensions must be approved in advance by the instructor.

Health and Safety
Because of the variety of equipment in the Kranzberg Illustrated Book Studio, you must wear close-toed shoes in the studio. Likewise, any loose clothing should be tied tight when using the equipment. You are not to use any piece of equipment unless supervised. Please refer to the Bixby Hall Print Shop & Book Studio Updated Studio Rules & Shop Policies document for further information on the use of the Book Studio (you can find this on Canvas).

End of the Semester Reviews
All BFA Communication Design students, beginning with the spring semester of sophomore year, will be scheduled for an end-of-semester faculty review directly following the final week of classes. All BFA juniors and seniors in Studio Art will be scheduled for an end-of-semester faculty review directly following the final week of classes. Please note: reviews are optional for students in the BA and Second Major tracks and will be scheduled by request only. If a review is desired, students must notify Kim McCabe (kmccabe@wustl.edu) no later than the midterm mark of the semester. Students must be in two studio courses to be eligible for faculty review.

License For Non-Exclusive Right To Reproduce And Distribute
Ben Kiel has non-exclusive right to reproduce and distribute work produced in this class as part of a publication or body of work, which may include prod-

Grade Dispute Policy
The Sam Fox School aims to provide each student with a fair assessment of their academic work and studio. Students have the right to dispute their overall course grade (not individual assignments) if they believe that grade does not accurately reflect the quality of their work. A grade dispute must be submitted to the faculty member who assigned the grade within 30 days of receipt of the grade. The School stresses that every effort to resolve this dispute be made by the faculty and student involved. A student’s eligibility for advancement in sequential coursework requires timely resolution of the grade dispute. For more information see the school’s Grievance Policy.

Religious Holidays
The Sam Fox School of Design & Visual Art recognizes the individual student’s choice in observing religious holidays that occur during periods when classes are scheduled. Students are encouraged to arrange with their instructors to make up work missed as a result of religious observance, and instructors are asked to make every reasonable effort to accommodate such requests.

Technology Policies
Computers or other electronic devices, including “smart pens” (devices with an embedded computer and digital audio recorder that records the classroom lecture/discussion and links that recording to the notes taken by the student), may be used by students at the discretion of the faculty member to support the learning activities in the classroom. These activities include taking notes and accessing course readings under discussion. If a student wishes to use a smart-pen or other electronic device to audio record lectures or class discussions, they must notify the instructor in advance of doing so. Permission to use recording devices is at the discretion of the instructor, unless this use is an accommodation approved by Disability Resources. Nonacademic use of laptops and other devices and use of laptops or other devices for other coursework is distracting and seriously disrupts the learning process. Neuton computers or other electronic devices are to be used in the classroom during class for nonacademic or personal use.

The Book Studio Standard
The book studio is a shared resource that needs to be maintained for everyone using the studio. Thus, the golden rule of the studio is: When you leave, the studio will be cleaner than when you got there. This means that no food or drink is allowed in the book studio. Food and drinks are allowed only in Steinberg 011. As part of the class, you are given part of a flat-file drawer for storage. Do not store wet prints in your drawer. This drawer must be emptied at the end of the semester; if you do not empty your drawer at the end of the semester, your grade will be reduced by 10%. Personal materials left out in the studio—not stored in your flat file—will be thrown away. On days when we are working in the press area, no one is allowed to leave class until the press area is clean. It is the entire class’ responsibility to keep the studio clean.

Greivance Policy
The Sam Fox School Information Technology Infrastructure has many services for your benefit. Visit Inside Sam Fox for more information.

Permission to use recording devices is at the discretion of the instructor, unless this use is an accommodation approved by Disability Resources. Nonacademic use of laptops and other devices and use of laptops or other devices for other coursework is distracting and seriously disrupts the learning process. Neither computers nor other electronic devices are to be used in the classroom during class for nonacademic reasons or for work on other coursework.

Nonacademic use includes emailing, texting, social networking, playing games, instant messaging, and use of the Internet. Work on other coursework may include, but is not limited to, use of the Internet, writing papers, using statistical software, analyzing data, and working on quizzes or exams. The nonacademic use of cell phones during class time is prohibited, and they should be set on silent before class begins. In the case of an emergency, please step out of the room to take the call. The instructor has the right to hold students accountable for meeting these expectations, and failure to do so may result in a loss of participation or attendance points, a loss of the privilege of device use in the classroom, or being asked to leave the classroom.

The Sam Fox School aims to provide each student with a fair assessment of their academic work and studio. Students have the right to dispute their overall course grade (not individual assignments) if they believe that grade does not accurately reflect the quality of their work. A grade dispute must be submitted to the faculty member who assigned the grade within 30 days of receipt of the grade. The School stresses that every effort to resolve this dispute be made by the faculty and student involved. A student’s eligibility for advancement in sequential coursework requires timely resolution of the grade dispute. For more information see the school’s Grievance Policy.
Inclusive Learning Environment Statement
This class places great emphasis on keeping all interactions civil, respectful, and supportive of an inclusive learning environment. We strive to follow the maxim that critique serves the work, not the person who made the work (for more, please see howtocrit.com). Our feedback and interactions are honest and useful, aimed at improving the work being discussed. If you have any questions or concerns about classroom participation and/or dynamics, please speak to me, John Hendrix (Design Area chair), or an advisor.

The best learning environment—whether in the classroom, studio, laboratory, or fieldwork site—is one in which all members feel respected while being productively challenged. At Washington University in St. Louis, we are dedicated to fostering an inclusive atmosphere, in which all participants can contribute, explore, and challenge their own ideas as well as those of others. Every participant has an active responsibility to foster a climate of intellectual stimulation, openness, and respect for diverse perspectives, questions, personal backgrounds, abilities, and experiences, although instructors bear primary responsibility for its maintenance. A range of resources is available to those who perceive a learning environment as lacking inclusivity, as defined in the preceding paragraph. If possible, we encourage students to speak directly with their instructor about any suggestions or concerns they have regarding a particular instructional space or situation. Alternatively, students may bring concerns to another trusted advisor or administrator (such as an academic advisor, mentor, department chair, or dean). All classroom participants—including faculty, staff, and students—who observe a bias incident affecting a student may also file a report (whether personally or anonymously) utilizing the online Bias Report and Support System.

Ethics/Violations Of Academic Integrity
Ethical behavior is an essential component of learning and scholarship. Students are expected to understand, and adhere to, the University’s academic integrity policy. Students who violate this policy will be referred to the Academic Integrity Policy Committee. Penalties for violating the policy will be determined by the Academic Integrity Policy committee, and can include failure of the assignment, failure of the course, suspension or expulsion from the University. Additionally, students should if you have any doubts about what constitutes a violation of the Academic Integrity policy, or any other issue related to academic integrity, please ask the instructor.

- Always cite sources when ideas are presented and/or language that was developed by another individual, including material from class lectures and discussions.
- Violation of this policy includes collaborating on assignments where collaboration is not allowed and/or utilizing notes, texts, etc. on any assignment where use of such materials is not allowed.
- Use of unlicensed software or typefaces in the course is considered a violation the policy.

English Language Proficiency
If English language proficiency is such that the student may need special assistance in lectures, reading, written assignments, and/or exam taking, please communicate these needs to the instructor who may refer the student to the English Language Program (ELP). ELP is a University-wide resource that provides classes and academic English language support designed to increase non-native English speaking students’ English language proficiency and to facilitate their academic success at Washington University. Other Academic Assistance resources are available through the Office for International Students and Scholars.

Reporting Sexual Assault
If a student discusses or discloses an instance of sexual assault, sex discrimination, sexual harassment, dating violence, domestic violence or stalking, or if a faculty member otherwise observes or becomes aware of such an allegation, they will keep the information as private as possible, but as a faculty member of Washington University, they are required to immediately report it to the Department Chair and Dean or directly to Ms. Jessica Kennedy, the University’s Title IX Director, at (314) 935-3118, jwkennedy@wustl.edu. Additionally, you can report incidents or complaints to the Office of Student Conduct and Community Standards or by contacting WUPD at (314) 935-5555 or your local law enforcement agency.

Sexual Assault Resources
The University is committed to offering reasonable academic accommodations (e.g., no contact order, course changes) to students who are victims of relationship or sexual violence, regardless of whether they seek criminal or disciplinary action. If you need to request such accommodations, please contact the Relationship and Sexual Violence Prevention Center (RSVP) at rsvpcenter@wustl.edu or 314-935-3445 to schedule an appointment with an RSVP confidential, licensed counselor. Information shared with counselors is confidential. However, requests for accommodations will be coordinated with the appropriate University administrators and faculty.

Disability Resources
At Washington University we strive to make the academic experience accessible and inclusive. If you anticipate or experience barriers based on disability, please contact Disability Resources at 314.935.5970, disabilityresources@wustl.edu, or visit our website for information about requesting academic accommodations. Visit Disability Resources.

Bias Reporting
The University has a process through which students, faculty, staff and community members who have experienced or witnessed incidents of bias, prejudice or discrimination against a student can report their experiences to the University’s Bias Report and Support System (BRSS) team. Visit Bias Report and Support System.

Mental Health
Mental Health Services’ professional staff members work with students to resolve personal and interpersonal difficulties, many of which can affect the academic experience. These include conflicts with or worry about friends or family, concerns about eating or drinking patterns, and feelings of anxiety and depression. See: Mental Health Services.

Center for Diversity and Inclusion (CDI)
The Center for Diversity and Inclusion (CDI) supports and advocates for undergraduate, graduate, and professional school students from underrepresented and/or marginalized populations, collaborates with campus and community partners, and promotes dialogue and social change to cultivate and foster a supportive campus climate for students of all backgrounds, cultures and identities. Visit Center for Diversity and Inclusion.

Preferred Name and Gender Inclusive Pronouns
In order to affirm each person’s gender identity and lived experiences, it is important that we ask and check in with others about pronouns. This simple effort can make a profound difference in a person’s experience of safety, respect, and support. See: Gender Pronouns Information and Preferred Name.

Military Service Leave
Washington University recognizes that students serving in the U.S. Armed Forces and their family members may encounter situations where military
service forces them to withdraw from a course of study, sometimes with little notice. Students may contact the Office of Military and Veteran Services at (314) 935-2609 or veterans@wustl.edu and their academic dean for guidance and assistance. See the Policy for Military Students.

Archiving work
Save everything you make from this semester until the end. Early sketches, finished pieces, notes, etc. At the end of the semester, you are responsible for turning in photographic evidence of your work. This record may be used by the school in promotional material.

Resources for Students
For information on all available student resources, including disability accommodations, campus safety, mental health resources, writing assistance, grievance procedures, and much more, please go to Inside Sam Fox: Student Camps Resources.

St. Louis things to know
• 88.1 KDHX on your FM radio dial, kdhx.org. Local independent radio, eclectic programming.
• Left Bank Books, left-book.com. Located in the Central West End, your local independent bookstore.
• Saint Louis Art Supply, stlartsupply.com. Also in the Central West End, walking distance from Left Bank Books. Locally owned, competitive prices, cafe/coffee in store.
• Contemporary Art Museum (CAM), camstl.org. No permanent collection, each season is a new crop of contemporary art.
• Pulitzer Foundation for the Arts, pulitzerarts.org. Next to CAM is Tada Ando’s building for the Pulitzer. Visit for the art, stay for the building.
• Saint Louis Art Museum, slam.org. If you haven’t been, why not?
• The City Museum, citymuseum.org. If you haven’t been, why not?
• AIGA STL, stlouis.aiga.org. The local chapter of the AIGA, the professional organization of design. Hosts many local design events.
• Cherokee Street. One of Saint Louis’s vibrant neighborhoods. Tacos to vintage shops.
• The Luminary, theluminaryarts.com. On Cherokee street, an artist run gallery and studio space.